The Gas Journal

JULY 25, 1934

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Editorial Notes

The Zurich Conference

LAST week, as we went to press, we received the British Official Programme of the Second International Gas Conference of the International Gas Union, to be held in Zurich from Sept. 1 to 4, and we were pleased to be able to give the Gas Industry earliest possible details of the event. The details, which bore the unmistakable stamp of Institution organization, were sufficient to enable those who were immediately impressed by the title to count out the money for their fares and decide on their time of travel forthwith. Those who paused to ask themselves, "What's in a name?" will not have had to read far before discovering that the International Gas Union have secured for the occasion a cast of speakers of international fame, whose repertoire will cover many subjects of topical interest. We find no announcement of the name of the representative who is to present the British Report on "Methods for the Development of the Use of Gas for Domestic Purposes," but the fact that it is sponsored by the Institution is a guarantee that it will be a credit to our Industry, and the title is sufficiently wide to keep us all in a state of pleasurable anticipation until 09.00 on Sept. 4.

The "JOURNAL" will as a matter of course be represented, as it has been at every gas conference of any importance—national or international—in the last eighty-five years. In the meantime we propose to reserve judgment as to the value or otherwise of International Conferences of the International Gas Union. At the same time we urge as many members of the Industry as possible to go on this occasion and see for themselves. Many will recall the "First International Gas Conference" held in connection with our own Institution Meeting in 1931, when the then President of the Institution, Mr. H. E. Copp, presided as the elected international President, and when, on the initiation of the French Gas Association, negotiations resulted in the formation of the International Gas Union. "In addition to providing a centre," stated Mr. Copp on that occasion, "for the requisition, collation, and distribution of technical and other information concerning the Gas Industry and the promotion of its well-being generally, the Union will hold Conferences at intervals of three years, the organization of which will be undertaken by the Gas Association of the nation in whose country the Conference is to be held. The organization of the Union is an important development, and likely to lead to extremely beneficial results."

In view of the fact that the Union first saw the light of day in our country, and under a British President, we consider it is up to us to send as many delegates as possible this year to support the President of the Institution, Mr. Valon Bennett, in an investigation as to how far "extremely beneficial results" have matured, and Mr. Alexander, the Institution Secretary, who has, as usual, been indefatigable in his labours in connection with the forthcoming Conference. The individual Britisher does not as a rule shine particularly brightly at international gatherings of this kind; for one thing he is on the average deficient as a linguist. We feel sure, therefore, that the organizers of the British delegation will bear in mind the necessity of making the most of us collectively. We understand that abstracts of the papers will be issued in several languages, including English, but that discussions will take place in the various tongues of the nations represented. Twenty-two nations were, we believe, represented at the First Conference, and if the number has grown to any extent we can foresee even the "JOURNAL" representative being slightly behind at times. Those who went to America last year, however, in the company of Herr Fritz Escher will have full confidence in his ability, as President at Zurich, to steer the Conference through all its difficulties, and if it is as fruitful of thought for our Industry as was the American visit, we for our part shall have no complaint to make.

Gas in Council Houses

MANY inquiries as to the scope of Section 27 of the new Gas Act—the Section which prevents local authorities from restricting their tenants as to the use of gas—lead us to believe that a review of the position now existing will be helpful.

This Section of the new Act is the final phase of a hard fought battle. Since the war, local authorities have almost by accident and, as it were, in a night, become the owners of vast housing estates, and many Electricity Committees were not slow to appreciate that this fact should be turned to their advantage. People driven by the national shortage into council houses could ill afford to quarrel with their landlords, and were in no position to object to terms binding them to use electricity and to

exclude gas. In some cases electricity charges were discreetly concealed in the rent, which often achieved the desirable object of enabling them to be collected whether the tenant had in fact used any electricity or not. That the evil was prevalent throughout the country there can be little doubt, and those who read the able speech delivered by Mr. Oswald Lewis on the Report Stage of the new Act can hardly be uncertain as to the attitude of the tenants themselves in the matter, where such tenants had been given an opportunity to declare their minds.

Mr. Oswald Lewis cited three instances where tenants had been canvassed by the Gas Companies of their area. In one case 515 out of 580 tenants stated that they desired to take gas; in another case it was 190 out of 250; and in still another 27 out of 28.

Although the opinion of Parliament was clearly expressed on the Second Reading debate on the Kettering Gas Act, where the opposition was not even pressed to a division, there is no doubt that the public conscience was still further awakened, and even shocked, by the evidence called in support of the similar Act promoted by the Gas Light and Coke Company. The pouring of cement down gas pipes, and the careless and unauthorized severance of the services, brought down the Board of Trade in the person of the Parliamentary Secretary in support of the principle of the freedom of tenants to choose their own form of lighting, heating, and cooking. Even after the passing of the Gas Light Act, certain of the Local Authorities to whom the Act applied refused to respect its provisions, and it was necessary for the Company to obtain an injunction from the High Court to restrain the enforcement of provisions in tenancy agreements which were contrary to the Act. The fact that the Local Authority in question when brought to book submitted to the injunction plainly indicated that they had not a leg to stand on.

Private Acts naturally apply only to particular localities, and many Local Authorities who are outside the area of these Acts continued to restrict their tenants, although in almost every case the Gas Company called their attention to the fact that this policy had been unequivocally condemned by Parliament. It was therefore obvious that general legislation was necessary, and this has now been obtained by Section 27 of the new Act.

Position Under the New Act

ALTHOUGH the Act as a whole does not come into operation until Oct. 1, Section 27 begins to operate "after the passing of the Act." In other words, the benefits of the Section can be claimed from June 28 last, the date upon which the Act was passed. The Act, however, is not retrospective, as is the similar Section of the Gas Light and Coke Company's Act—that is, it will not affect existing tenancy or vitiate restrictive covenants in such tenancy agreements. Where, however, there is any change in the conditions of a tenancy, such as an alteration of rent or other material provision, it is thought that a new tenancy will be constituted, and that any restriction that previously existed contrary to the Section will become void. In strict law, no doubt, a Local Authority, while refraining from inserting restrictive provisions in agreements, could give a tenant legal notice to quit because he used gas, in the same way as such a notice might be given because the Local Authority disliked the shape of the tenant's nose. In practice it cannot be conceived, however, that any Local Authority would dare to incur the odium which such a proceeding would involve. If it was necessary to apply to a Court for possession on such ground, a Judge would without doubt suspend the execution of the order for an indefinite time.

It is also to be noted that the Section does not apply in the areas of Local Authorities who are themselves the gas undertakers for the area. It is to be assumed that such Local Authorities would be unlikely to restrict the sale of their own commodity. In any event it is a somewhat doubtful point whether they would be legally entitled to do so. As Gas Undertakers such Local Authorities are under an obligation, under certain conditions, to give and maintain a supply of gas on the request of the owner or occupier of any house situate within 25 yards of the mains. It would seem unlikely that a statutory obligation of this kind could be evaded by the insertion of a restrictive clause in a tenancy agreement. Local authorities must not carry out their duties as housing authorities in a manner which would conflict with statutory duties laid upon them by other Acts.

The new provision will be welcomed by scores of thousands of tenants throughout the country. Although it may cause some irritation in the minds of certain Local Authority Electricity Committees, we venture to think that the electricity industry as a whole realize that coercive and restrictive methods are not good salesmanship. In so far as the electricity industry is to thrive, it must eventually do so on its own merits, and not by using indirect and unpopular methods. The fact that such methods have ever been tried out is, in itself, a confession of weakness.

Scientific Cooking

"IT is doubtful whether it is possible to obtain a better meal to-day than could have been obtained a thousand years ago—although the general standard of life for the masses has risen enormously, and we have a far greater supply of food, especially seasonable food, upon which to draw. Cookery still remains a traditional art. It has not yet seriously been considered from the engineering point of view. The chemistry of cookery is practically untouched. At the present moment there is not much possibility of a serious attack being made on the reformation of cooking. . . ." The foregoing is an extract from a speech which Sir Harry McGowan, Chairman of Imperial Chemical Industries, Ltd., delivered last Thursday at the annual meeting of the Society of Chemical Industry, held in Cardiff.

We disagree with Sir Harry that the chemistry of cookery is practically untouched, and we feel sure that Mr. H. James Yates, Chairman of Radiation Limited, will be with us. Mr. Yates has been responsible for a vast amount of research into the effects of cooking on various foodstuffs and on the conditions necessary to retain in the cooked foods the nourishment of the raw foodstuffs. Again he has had an eye to the appetising quality of the cooked food—which means a very great deal. The Gas Industry owes much to the fact that Radiation Limited, in revolutionizing cooker design and performance, began at the right end of the stick by studying the science of cookery. It is over eleven years since Dr. Harold Hartley contributed to the columns of the "JOURNAL" a most valuable paper on the composition of foodstuffs, on the effect of cooking, and on cooking conditions. That contribution was first-class propaganda for the Gas Industry in general. If to-day readers would turn to the issues of the "JOURNAL" for March 28, 1933, and April 4 of the same year, they would better understand the success of gas appliance firms and the popularity of gas cooking. All the credit does not go to Radiation Limited, but we think that in this respect at least they gave a lead.

The Engineering Aspect

We disagree with Sir Harry that cookery has not yet seriously been considered from the engineering point of view. We maintain that the strictly engineering features of the modern gas cooker have brought better meals to the tables of millions of consumers, and have produced these meals while halving the housewife's work. The automatic gas cooker, which is already within reach of practically every consumer and which is likely to become universal, is an aid to health in two major ways. It enables the veriest novice to turn out meals both appetising and nourishing; it enables these meals to be prepared with a minimum of labour and anxiety. The housewife prepares the dishes for an entire meal and places them in the oven—and the oven does the rest without demanding any attention whatever. The labour saved is health gained. In another way the modern gas cooker is an aid to health. Its economy is such that the gas bill no longer has any terror for the householder —a nerve-soothing reflection.

This is not advertisement "copy." We write this article in the firm belief that the nation has benefited far more than it appreciates as a result of the application of the sciences of chemistry and engineering to cookery. Engineering. The gas oven thermostat is definitely an excellent example of precision engineering work—a device which, though working within very fine limits, is practically foolproof and capable of operating without fail under all sorts of conditions. The finish, too, of the modern gas cooker is a triumph of engineering which again results in a saving of labour, and hence more recreation for the average housewife.

Looking Ahead

"I would venture to suggest to you that within the next 50 years we shall see a revolution in the ordinary household methods of handling food, which will make our grandchildren wonder at the elementary way in which their grandparents got along, and the wastefulness in which they prepared and used their food." Here is another quotation from the speech of Sir Harry McGowan. Frankly, we are sorry that the days of cookery according to Mrs. Beeton are no more, though we suppose that we must look upon our grandparents as food wasters. This is not sentimentality—there is nothing sentimental about boar's head; and we are all in favour of such expressions as "Take a bottle of vintage port . . ." Those were spacious days; and scientfically prepared tinned foods are in general a sorry substitute. Tinned foods have, however, come to stay, and it is no use kicking against the pricks. The Pacific Islanders who trade in blue foxes no longer eat sea lion or even trouble to catch fish. Tinned food is ever so much easier. The time may come when a couple of pills combining vitamins x and y will constitute a hearty meal. If and when it arrives, we shall have to "put a good face on the matter."

Cooking apart, however, we do handle food wastefully, and we have only ourselves to blame if we allow our children—let alone our grandchildren—to have the laugh over us. A household is wasteful if it has no means of keeping foodstuffs in a wholesome condition. No doubt the hot weather of this month has brought home to many the necessity rather than the desirability of refrigeration, but the fact remains that *refrigeration is necessary throughout the year.* There is no need for us to set out the arguments for this statement. Gas operated refrigerators are selling like "cold cakes" in America, and this makes one wonder why our Industry is not pushing them with greater enthusiasm. The time will arrive when no household will be considered complete without a refrigerator, and the gas-operated unit is the most economical of any. In the past the Gas Industry has done great service in eliminating waste in the household. Its task is by no means ended.

The Gas Unit

As we were going to press with last week's "Journal" we were particularly glad to receive a letter carrying further discussion of the gas unit. The letter, which appeared in our Correspondence columns, was from Mr. C. S. Shapley, and followed upon our Editorial Notes on the subject in the "Journal" for July 11—a subject which, states Mr. Shapley, "we in the West Riding consider to be very important." In our previous comment we had said: "This question was really brought out into the open in May of 1930 when Mr. R. D. Keillor, of Greenock, staunchly advocated in the 'Gas Salesman' the adoption of the small unit and urged the Gas Industry to lose no time in coming to a decision as to what this unit should be."

Mr. Shapley points out that on March 19, 1930, he convened in Leeds a meeting of a Special Gas Charges Committee, and that at this meeting, which was attended among others by Mr. E. J. Fottrell and Mr. J. R. W. Alexander, Mr. A. L. Jennings, of Spenborough, advocated charging for gas by unit—the unit to be 3,412 B.Th.U., the direct equivalent of the unit of electricity. Mr. Shapley thinks it only fair to Mr. Jennings that this fact should be made known; and we are only too glad to give it full publicity. Also, says Mr. Shapley, "he and other members of our District Board supported the subject when I again raised it at the last April meeting of the Executive of the National Gas Council in London." We gather from Mr. Shapley's letter that Mr. Jennings advocated *charging* for gas by unit, which by law is impossible.

In our comments in the "Journal" for July 11 we were not concerned with who originated the suggestion that a small unit should be adopted, but our sentence concerning Mr. Keillor stands, we suggest, uncorrected, for it was he who really brought the question "*into the open.*" A Committee meeting in Leeds, of which until now we have been unaware, cannot be considered open discussion. It was not until February, 1931, that the National Gas Council "had the subject before them and collaborated with the Institution of Gas Engineers at a Joint Committee." We quote Mr. Shapley. The meetings of the Executive Board of the National Gas Council are the reverse of "open."

In the meantime a great deal of correspondence for and against such a plan had been published in the "Journal." Surely open discussion! To-day, July 25, 1934, we do not know precisely what the National Gas Council recommends, apart from the fact that it prefers a unit of 4,000 B.Th.U. to what we consider the more rational one of 3,412 advocated in the first instance by Mr. Jennings. As things stand at present the N.G.C. has given no positive lead on the matter. It was for this lead, openly expressed, that we asked in these columns on July 11. We suppose there is nothing to prevent the adoption of a unit by those who would try it out, but a national pronouncement would be helpful on a subject which is quite evidently regarded by some —the West Riding apparently, as an example—as having great sales potentialities for the Industry in general. It seems a pity indefinitely to shelve questions because they are difficult to answer.

The 1935 B.I.F.

We had thought that the question of the Birmingham Section of the British Industries Fair was settled for 1935 as far as the Gas Industry was concerned by the decision of the Gas Industry Section Committee to organize officially no Gas Section this year. The possibility, or even the desirability, of preventing individual firms from exhibiting was never contemplated, but in previous discussions of the matter in the editorial columns of the "JOURNAL" we have always emphasized the importance, in our view, of having either a Gas Section entirely up to the standard of that of previous years, or no Gas Section at all.

This view, we know, was fully shared even by those who all along have been dissatisfied with the Committee's decision not to organize a Gas Section—and many, we realize, considered it a bad decision in the interests of the Industry. It is disturbing, therefore, to see an official letter from the General Manager of the B.I.F., Birmingham, to a former exhibitor in the Gas Section, enclosing an application form for space and a plan showing the preliminary lay-out for 1935. The letter states that "on the plan you will notice the area reserved for the Gas interests, and you will understand that, although the Section will not be officially organized as in the past, individual firms can—if they wish—show as before by applying to this office. . . . The applications for space received to date are most impressive. . . ." The really disturbing feature, as we see it, is that a distinct Section has been marked off in the Building and Heating Section on the accompanying plan through the whole width of the exhibition, and the word "Gas" has been written in against it.

As we have already stated, we have no quarrel with independent firms in the Gas Industry who consider it to their advantage to show either in the Building and Heating Group or in Engineering, and we see no means of preventing the Fair Authorities from canvassing them even if this was thought desirable. But we do urge upon the Gas interests to watch the position most carefully and do everything in their power to avoid anything inferior to the organized efforts of previous years being labelled as a "Gas Section." We consider that intending gas exhibitors themselves should, if the necessity arises, make a *démarche* in the same direction, as it is certainly not in their interests that the Industry they serve should put up a poor show collectively, however good their individual displays. We trust, however, that the necessity will not arise, because, with some knowledge of the negotiations which have taken place, we believe the Fair authorities will regard it as a matter of good faith to look after the interests of the Gas Industry, which has been a staunch supporter of the enterprise for many years until the change of date this year, and which, in other circumstances, may one day feel able to return to the fold. It is only the wording on the plan, referred to above, which has made it necessary for us to point out that, in our view, the best interests of the Industry demand that gas exhibitors this year should not be treated as a "Section," unless they are numerically far greater than we anticipate.

The Ubiquitous Pylon

"PERIOD return tickets"—that blessed innovation by which the railways have demonstrated their recognition of the business principle that the goal of greater profits lies in the direction of lower prices—have made us all acquainted with the fact that now pylons for electricity transmission rear their unsightly heads, here, there, and everywhere. One more unpleasant reminder, perhaps, of the march of progress. Seen stretching in line, sometimes for miles, across a beautiful landscape, it may appear momentarily that the pylons themselves are marching, but that is an illusion; they will be found in precisely the same place next time you pass that way.

As, therefore, the pylon has to be endured, there should be a book published, or a talk broadcasted, in order that the heedless and the ignorant may be made acquainted with the pylon's habits and capacity for mischief. From time to time the pylon has received notice in the pages of the "JOURNAL," but this has mostly been on the score of appearance, and not because of surrounding danger to the careless or the unsuspecting. Nothing the "JOURNAL" could say would prevent a thoughtless boy climbing a pylon to recover a kite, or for some such trivial reason, if he felt a desire to do so; the publicity should come through other channels, for it is needed. Only a day or two ago one of the daily newspapers recounted two cases which might not have occurred had the persons concerned been alive to the lurking danger.

In the first case a man was electrocuted, and four others were burned, while working in a field near the Dunston-on-Tyne power station. They were labourers, and were employed in moving a portable crane, when it came in contact with a live wire carrying current from the power station. The second occurrence was near Trowbridge, where three men received severe shock and burns. They were haymaking, and a hay elevator came into contact with the overhead electricity cables. A full realization of what might happen would possibly have prevented these accidents.

While on the subject of live wires, we are tempted to urge that "Safety first" might well be the motto for the lighting of busy railway stations with a number of live rails running through them. In the event of a failure, accidents might easily happen. This seems to have been sensed by the officials at Wimbledon on a recent occasion. We are glad not to have been at Wimbledon Station at the time, but this is how a newspaper recorded what happened: "All the electric lights failed at Wimbledon Southern Railway Station last night. Officials made a dash for oil lamps with which to light the platforms. Passengers found the station almost in darkness. Officials stood on the platforms to prevent anyone stumbling on to the line and to conduct people to the exits. At midnight the lights were still out." Think of the reliability of gas.

Forthcoming Engagements.

Aug. 14.—IRISH ASSOCIATION.—Annual Meeting in Belfast.
Sept. 1-4.—SECOND INTERNATIONAL GAS CONFERENCE, Zurich.
Sept. 6.—NORTH BRITISH ASSOCIATION OF GAS MANAGERS.—Annual Meeting in Inverness.
Sept. 11.—I.G.E.—Finance Sub-Committee, 9.45 a.m.; Membership Sub-Committee, 10.30 a.m.; General Purposes Committee, 11.15 a.m.; Gas Education Executive Committee, 4 p.m.
Sept. 20.—I.G.E.—Refractory Materials Joint Sub-Committee (Stoke-on-Trent), 2.30 p.m.
Sept. 20.—WALES AND MONMOUTHSHIRE ASSOCIATION OF GAS ENGINEERS AND MANAGERS.—General Meeting at Porthcawl.
Sept. 24-26.—B.C.G.A.—Annual General Meeting and Conference at Sheffield.
Sept. 27.—I.G.E.—Liquor Effluents and Ammonia Sub-Committee, 2.30 p.m.
Sept. 28.—I.G.E.—Joint Research Committee, 10.30 a.m.: General Research Committee, 2.30 p.m.

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Page 88. MOFFAT. H. D. L. Simpson appointed S. (not Simmons as announced last week).

Personal

Mr. F. TYNDALL has been appointed Assistant Engineer to the Hong Kong and China Gas Company, at the Hong Kong and Kowloon Station. His father is the present Engineer and Manager of the Deal and Walmer Gas Company, where Mr. F. Tyndall received his early training in gas-works practice, and subsequently served as Technical Assistant there, during the extensive re-modelling of the Deal Gas-Works. Later, he served a year as Assistant Manager at the Whitstable Gas-Works till they closed down as a manufacturing station, and took a bulk supply of gas from Dover. After a brief and temporary engagement with the Woodall-Duckham Company, he obtained his present position as Works Superintendent to the Tredegar Urban District Council Gas and Water Department, and following 2½ years in that position, he now proceeds to Hong Kong on Aug. 3.

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Mr. W. F. HOWARD was elected Chairman of the Long Sutton (Lincs.) Gas Company at the annual meeting, and Mr. F. E. VINCENT was appointed Managing Director.

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Mr. H. E. F. HEATH, of the Industrial Department of the Liverpool Gas Company, has passed the examination for Associate Membership of the Institution of Heating and Ventilating Engineers.

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In announcing in the "JOURNAL" last week (p. 152) the appointment of Mr. HUGH D. L. SIMPSON as Secretary to the Moffat Gas Company, an unfortunate slip resulted in his name appearing as Simmons.

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Mr. HAROLD MILLNER (son of Mr. F. Millner, Distribution Superintendent to the Scarborough Gas Company), who recently took his degree of B.Sc. (Gas Engineering) at Leeds University, has been appointed Technical Assistant to that Company.

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At a social held on July 13, to celebrate the twenty-fifth anniversary of the day on which Mr. A. R. W. ROBERTS, who is Engineer of the Hereford Corporation Gas Department, first joined the staff, Mr. J. W. Boyle, Works Superintendent, who was in the chair, recalled that Mr. Roberts had taken over the charge of the Department as a very young man in 1909, and described the state of the Department to-day as an eloquent tribute to his all-round ability as a gas engineer. Mr. Geo. H. Davies (District Superintendent) presented Mr. Roberts with a gold wristlet watch, suitably inscribed, and a pearl necklace with marcasite chain for Mrs. Roberts. Mr. Davies, who has been longest in the service of the Department, made the presentation on behalf of the employees.

Obituary

The death is announced of Monsieur FELIX VERNES, the Chairman of the Compagnie Continentale du Gaz, which is the French affiliate-company of the Imperial Continental Gas Association. Monsieur Vernes was a regent of the Bank of France, and presided over the Boards of various French insurance and financial companies.

Correspondence

Monthly Billing

SIR,—Having adopted in 1930 the system of machine billing of gas accounts (issued quarterly), I have been much interested in Mr. Carmichael's paper, the discussions thereon, and your editorial comments relative thereto.

After having read the editorial notes in the current issue of the "JOURNAL," I found it interesting to note from the leaflet of "Reduced Telephone Rates" also received this morning, that Post Office Telephones is demanding an additional 1s. per quarter from any telephone subscriber who elects to adopt the optional monthly tariff in preference to the quarterly tariff.

Yours, &c.,
ERNEST ABLETT.

Swansea Gas Light Company,
Swansea,
July 19, 1934.

Institution of Gas Engineers.

Arrangements for 1935 Examinations.

The next Examinations in Gas Engineering will be held on April 27, 1935, and in Gas Supply on May 4, 1935. Applications to sit for either of these Examinations should be received by the Secretary not later than Feb. 28, 1935. The Education Calendar for 1935 will be available in December next.

Charles Hunt Memorial Medals.—The Charles Hunt Memorial Medals, generously endowed in 1930 by Mr. P. C. Holmes Hunt, on behalf of himself and his brothers and sisters, in memory of their father, are awarded, generally annually, to the candidates who achieve the highest standards in the Examinations for the Diplomas in Gas Engineering (Manufacture) and in Gas Engineering (Supply), provided such standard satisfies the Council, on the recommendation of the Gas Education Committee and the Board of Examiners. The Medals are not awarded on the 1934 Examinations.

Permission to sit for Examination is given only in respect of the examination to be held next after such permission is granted. Students have to comply with the Regulations in force at the time of the examination.

Entries for Ancillary Subject Examinations.—Notification of a candidate's intention to present himself for examination in a subject ancillary to Gas Engineering or Gas Supply must be received by the Secretary of the Institution not later than Jan. 15 in each year. External students have to satisfy themselves that they are working to the Syllabus of the Examining Authority in whose area they reside and by whom they would normally be examined. Copies of such syllabuses can be obtained from the Examining Authority. Candidates are responsible for entering themselves for the examinations on receipt of instructions from the Institution to that effect, these being issued after the Secretary has received notification of the candidate's intention to present himself for examination on certain subjects.

Rotarians and the Gas Industry.

Proposed Light, Heat, and Power Group.

A special meeting of Rotarians connected with the Gas Industry was held during the course of the recent Conference of British Rotary (R.I.B.I.) in Douglas. Of the ten delegates attending, seven represented gas undertakings, while the remaining three represented different industries allied to the Gas Industry. The opinion of the meeting was that, practically, every senior executive was a member either of his district Association or of the Institution of Gas Engineers, or of both, and consequently that every "Gas" Rotarian was a member of his professional Association.

In the opinion of the meeting, no more favourable opportunity for an interchange of opinions between representatives of the Gas Industry and representatives of industries supplying a similar, or even a rival service, is provided than a vocational group meeting at an Annual British Rotary Conference, conducted as it is, in a spirit of Rotarian fellowship. The meeting, therefore, recorded a suggestion that at future Rotary conferences there be held a Group meeting, called "Light, Heat, and Power," and comprised of the coal, electricity, and gas groups.

Certificates for Long Service.

An interesting presentation took place in the Works Canteen of Messrs. Alder & Mackay, Ltd., Edinburgh, on July 19.

Some time ago, when going through papers, it was realized that there were a great many employees with 30 years' service or more with the Company to their credit, and the Directors decided to make some recognition. This has taken the form of an illuminated and framed Long Service Certificate, bearing the recipient's name and number of years of service as at June 30, 1934, and is signed by the Chairman of the Company, Mr. J. Miller Thomson.

Including three employees in New Zealand, three in London, one in Bradford, and four men recently pensioned, no fewer than 120 employees became entitled to these certificates, which were accompanied by a small cash bonus. Twenty-one of these had actually exceeded 40 years' service, and two (the Works Manager, Mr. John R. Gray, and one of the foremen) had passed their fiftieth year.

In asking the Chairman of the Company to present the certificates, Mr. J. L. Bennet remarked that, commencing from small beginnings, Alder & Mackay, Ltd., had flourished because it was surely founded on the four corner-pieces represented on the certificate—integrity, industry, co-operation, and goodwill.

News In Brief

As a Result of a Thunderstorm in the Capel St. Mary district of Suffolk on July 13, the electricity supply was cut off from 3 p.m. on the Friday until 7.30 p.m. on Saturday, July 14.

Aberfeldy Reduce the Price of Gas.—The Directors of Aberfeldy Gas Light Company have reduced the price of gas by 2d. per 1,000 c.ft., making the new rate 5s. 10d. instead of 6s. per 1,000 c.ft.

A Reduction in the Price of Gas is announced by the Appleby (Westmorland) Town Council to 5s. per 1,000 c.ft. for ordinary customers, with a rebate of 1s. in the £ to prepayment meter consumers.

An Increase in the gas made of 12·6%, as compared with the corresponding period last year, was registered at the Dunbar Gas-Works for the month of June, when 2,046,060 c.ft. of gas was manufactured.

Proposals to Introduce Electric Light in the schools at Condorrat and Croy have been defeated, the Education Committee of the Dumbartonshire County Council deciding to continue the present system of gas lighting.

The Amount of Gas Made at Kirkcaldy Corporation works during the past year—206½ million c.ft.—constitutes a record in the history of the Undertaking. A new purification plant is to be installed at a cost of £7,000.

To Assist Airmen, the Bangor Borough Council considered, at the last meeting, the advisability of painting the word "Bangor" on the gasholder. No action was taken, pending an interview with the Gas Manager on the proposal.

A New Sports Pavilion for the Preston Gas Company's Social Club, at Lostock Hall, was officially opened, on July 14, by Mrs. S. Tagg, wife of the Engineer and Manager. The pavilion was erected and decorated by members of the Club.

An Issue of £25,000 of 4½% redeemable preference stock at a minimum price of issue of £112 per £100 is being made by the East Surrey Gas Company, details of which appear on later pages of this issue.

The Discovery of a Gasholder was made during excavations at Prestonpans Gas-Works preparatory to the erection of new plant, when the first gasholder to be used at the works was unearthed. It is about 20 ft. in diameter and 10 ft. deep and is sunk below the present ground level.

Some Interesting Local Statistics were given by Mr. J. F. Tyndall, Manager of the Deal and Walmer Gas Company, to the Local Rotary Club recently, in the course of an address on the Gas Industry. He said he had no available records showing when the Company was actually formed, but it was obviously previously to the year 1849, as a framed notice in the Company's Board Room, which bore the date Aug. 20, 1849, proved.

South-Eastern Gas Corporation, Ltd.—At an Extraordinary General Meeting of the South-Eastern Gas Corporation, Ltd., which was held on July 17, Sir David Milne-Watson, LL.D., D.L., the Chairman, presiding, a resolution increasing the share capital of the Company to £2,500,000 by the creation of 500,000 new shares of £1 each, of which 250,000 will be ordinary shares and 250,000 will be redeemable 4½% cumulative preference shares, was passed unanimously.

Tenders Have Been Considered by the Stratford-upon-Avon Gas Department for a new installation of vertical retorts, and it has been decided to accept that of West's Gas Improvement Company, Ltd., for £15,347. Application is to be made to the Ministry of Health for a loan of £15,000 towards the cost.

Bulk Supply for Broxburn.—Arrangements have been completed, whereby Broxburn Gas Company will purchase gas in bulk from Edinburgh Gas Department. It is expected that this will result in a reduction in the price to local consumers. The laying of the connecting main is to be commenced shortly.

A Resolution of Appreciation of the manner in which the gas undertaking is being conducted was placed on record by the Bangor Borough Council at its last meeting. A statement of accounts showed that there had been a profit on the undertaking of £1,271 as compared with a loss of £564 the previous year.

The Tenders Accepted by the Dunfermline Gas Committee for the reconstruction of No. 1 gasholder at the Corporation Gas-Works, and for the construction of coke conveying and screening plant, were those of Messrs. Clayton & Co., Ltd., Leeds, and Messrs. Strachan & Henshaw, Bristol, respectively.

Commercial Gas Company's Dividend.—The Directors of the Commercial Gas Company have declared an interim dividend of 2½% (less income-tax) on the ordinary stock of the Company for the half-year to June 30, 1934—payable on Aug. 15. The dividend is at the same rate as that paid for the corresponding half-year, 1933.

The South-Western Gas Corporation, Ltd., state that an issue of £50,000 4% debenture stock has been created with power to the Corporation to increase the issue for any amount not exceeding the sum equal to one-half of the share capital of the Corporation for the time being issued. All the above stock has been placed privately at par free of commission.

An Annual Outing of an ambitious character was greatly enjoyed by employees of the Torquay and Paignton Gas Company on Saturday, July 14. The party caught an early train to Reading, having breakfast en route, and on arrival at that town went on board a river steamer. After passing through some of the most famous of Thames beauty spots, including Shiplake, Henley, and Marlow, where lunch was served on board, the party disembarked at Maidenhead and travelled to London, spending the rest of the time sightseeing. They arrived back at Torquay at 5 o'clock on Sunday morning, having experienced glorious weather throughout.

Oil-from-Coal Plant.—The National Coke and Oil Company, Ltd., states the *Chemical Trades Journal*, contemplates starting a plant in Manchester. Negotiations are in progress for acquiring a site, where modern retorts will be erected. Other sites have already been secured in the Black Country and on the Thames. The Company, which is turning out 2,000 gallons of coal-oil a day at its Cannock Chase plant, has a capital of £1,000,000, privately subscribed, and the Directors are Sir Thomas Edelstone, Mr. Arnold Rowntree, Mr. Corbet W. Woodall, Mr. W. B. Mitford, Major Edwin Monro, and Mr. E. W. Brocklebank. Dr. C. H. Lander, for many years associated with the Fuel Research Board, has become Technical Adviser.

Extension Scheme at Falkirk.

The demand for gas at Falkirk has increased within the last few years to such an extent that the present plant is working very near to its maximum output. Various schemes for increasing the output have been put forward by the Gas Committee and Sub-Committee, and these were considered at a meeting of the Town Council held on July 17.

The report of the Engineer and Manager, Mr. H. G. Ritchie, showed that the make of gas for the year ended May 15 was 410½ million c.ft., being an increase of 31 million c.ft., or 8·34% over the previous year. Bailie Kennard explained that this increase was due to a larger domestic demand, owing to further housing developments, and to the fact that a greater number of works had been using gas. The Sub-Committee had considered enlarging existing retorts, and introducing a water gas plant, but neither of these schemes seemed to offer a permanent solution of the difficulty. The Sub-Committee, therefore, recommended that the existing works should be extended and that the tender submitted by West's Gas Improvement Company should be accepted. This tender provided for the erection of a 750,000 c.ft. installation of West's 50-in. New Model retorts, and a Spencer-Bonecourt waste-heat boiler. The minute of the Sub-Committee containing this offer was seconded by Judge Muirhead, who complimented Mr. Ritchie on his able management. During the past year the actual make of gas per ton of coal had been 19,621 c.ft. After Provost Logan had expressed his approval of the scheme, the recommendations were unanimously approved by the Town Council.

Sir Arthur Duckham Memorial Fund.

Official List of Donations from July 14 to 20.

Name and Town.	Amount. £ s. d.
Manchester Corporation Gas Department	150 0 0
Old Blackheathan Club—	
George A. Brown	1 1 0
H. C. Thorpe, Poole	0 10 6
Donations (3) paid above	£ 151 11 6
Donations (622) paid previously	10,362 12 2
Total Donations (625) paid	£10,514 3 8
Donations (2) promised	59 0 0
Total Donations (627) paid or promised ...	£10,573 3 8

Amalgamation and Grouping.

Severn Valley Corporation and Gloucester.

The Severn Valley Gas Corporation announce that their offer to the stockholders of the Gloucester Gas Light Company (as announced in the "JOURNAL" for July 4, p. 26) has been accepted by a very large majority.

South-Western Gas Corporation.

An offer of the South-Western Gas Corporation, Ltd., to purchase the ordinary shares of the Truro Water Company has been accepted to the extent of 88·9%; the offer thereby becomes effective and allotment letters have been issued.

Swindon.

In last week's "JOURNAL" we announced that the shareholders in the Wootton Bassett (Wiltshire) Gas Company had accepted an offer of the Swindon United Gas Company to take over the capital of the former undertaking. We mentioned, too, that negotiations were in progress for the taking over of several other gas undertakings within a few miles of Swindon.

The *London Gazette* for July 20 publishes the Swindon United Gas Company's application to the Board of Trade to extend the limits of supply of the Company to the parishes of Bishopstone, Blunsdon St. Andrew, Liddington, South Marston, Stanton Fitzwarren, and Wanborough in the rural district of Highworth; the parishes of Lydiard Millient and Lydiard Tregoze in the rural district of Cricklade and Wootton Bassett; and the parishes of Ogbourne St. Andrew and Ogbourne St. George in the rural district of Marlborough and Ramsbury respectively, all in the County of Wilts., and to fix the price of gas in such added limits.

The Company is also applying for the appointment of Managing Director and for notice of candidature of, or of opposition to, the re-election of a Director.

Gas Fitting Staff Visit Blackpool.

Sutton Employees' Outing.

The Sutton Fitting Staff of the Wandsworth and District Gas Company visited Blackpool on Saturday, July 7, and all concerned thoroughly enjoyed themselves.

The party, accompanied by Mr. J. Davis, District Superintendent, and Chairman of the Outing Committee, left Sutton Works at 11.15 p.m. on Friday, July 6, by motor coach for Euston Station, where they entrained for Blackpool at 12.55 a.m., reaching their destination at 6 a.m.

Breakfast was arranged at the Savoy Café, when Mr. Davis read letters of apology from Messrs. C. M. Croft, G. Ireson, and C. P. Thorpe, to whom invitations had been extended, but who, unfortunately, owing to business reasons and prior engagements, were unable to be present. He also apologized for Mr. Sinclair's absence, who would have been with the party but was prevented at the last minute owing to a business appointment. Mr. Davis said he trusted they would have the pleasure of the company of the Officials mentioned at their next outing.

Mr. Davis then suggested to the party that a telegram be sent to the General Manager extending to him hearty greetings from Blackpool, and this was agreed to with acclamation. A telegram was also sent to late Chief Inspector F. Ingham, who had been seriously ill for a long period, wishing him the best of good luck in the future.

Mr. Geo. Jewett, representing the Works, supported Mr. Davis in his remarks and also proposed a hearty vote of thanks to the organizers for the hard work they had put in to make the outing a success; he was sure that everyone appreciated the work that had been done.

Mr. Alan Graham responded on behalf of the organizers, and said it was a great pleasure for them to do anything they could to make the outing enjoyable.

The party then proceeded in different directions and met again at the Savoy Café at 11 p.m. for supper, leaving Blackpool at 12.15 a.m. and reaching home at approximately 7.30 on the Sunday morning.

Dunfermline Gas Department.

Reduced Scale of Charges.

At a recent meeting of Dunfermline Town Council the following reduced scale of charges for gas was sanctioned, which will come into effect on all gas accounts rendered after Aug. 15 next:

For consumption up to 6,000 c.ft. (25·8 therms) per quarter, 3s. per 1,000 c.ft. (8·39d. per therm), a reduction of 2d. per 1,000.

For consumptions over 6,000 c.ft. per quarter but not exceeding 500,000 c.ft. per quarter, the above rate for the first 6,000 c.ft., and for the remainder, 2s. per 1,000 (5·58d. per therm), a reduction of 10d. per 1,000.

For consumptions over 500,000 c.ft. per quarter, but not exceeding 1,000,000 c.ft. per quarter, the above scale for the first 500,000 c.ft., and for the remainder 1s. 9d. per 1,000 (4·88d. per therm).

For consumptions exceeding 1,000,000 c.ft. per quarter, the above scale for the first 1,000,000 c.ft., and for the remainder 1s. 6d. per 1,000 (4·18d. per therm).

This scale applies both to domestic and industrial consumers.

In addition, the existing additional charge of 1s. per 1,000 c.ft. charged to consumers outside the Burgh will be reduced to 6d., the discount on street lighting will be increased from 17½% to 25%, and consumers who use a total of 2 million c.ft. or over per annum in separate premises will have their consumption treated as one account under the scale.

A Compliment to the Gas Industry.

Sir Felix Pole and Irish Transport Services.

An interesting analogy which embodies a compliment to the enterprise of the Gas Industry is contained in the report of Sir Felix Pole, to the Government of Northern Ireland, on the co-ordination of rail and road transport in that area.

Sir Felix, explaining why he could not recommend the Government to transfer, compulsorily, the road transport undertakings to the respective railway companies, says: "To do so would seem to be comparable to empowering gas companies compulsorily to acquire electricity companies. It may point a moral to recall that, faced with a new and virile competitor, the Gas Industry so improved, cheapened, and modernized its methods as to maintain the Industry on a highly profitable basis, notwithstanding constantly increasing competition."

British Standards Institution.

Work in Connection with the Gas Industry.

The annual report of the B.S.I. for 1934 states that a Specification for Flexible Plugs and Sockets has been prepared and will shortly be published. Attention is now being given to the preparation of a Specification for Flexible Metallic Tubing.

A Committee has been formed by the Gas Industry Committee, after consultation with the Institution of Gas Engineers and the Society of British Gas Industries, to deal with the preparation of British Standard Methods for the performance and efficiency of plant in which gas is employed or treated.

The formation of a Technical Committee to prepare a British Standard Glossary of Terms used in the Gas Industry has been sanctioned by the Gas Industry Committee, and a Committee consisting of representatives of the Institution of Gas Engineers, the Society of British Gas Industries, the Gas Companies' Protection Association, the South Metropolitan Gas Company, and the Gas Light and Coke Company is in process of formation.

The Gas Industry Committee has authorized the formation of a Committee to deal with the preparation of British Standard Specifications for Mild Steel Flue Pipes and Fittings (Galvanized, Aluminium Painted, and Vitreous Enamelled) and for Mild Steel Pipes, Fittings, and Fixings.

There are now four Technical Committees under the Gas Industry Committee.

French Gas Industry

Review of the 57th Congress of the Union Syndicale de l'Industrie Technique du Gaz en France

The 57th Congress of the Union Syndicale de l'Industrie du Gaz en France took place in Paris between June 5 and 10. M. P. de Lachomette, the President, was able to announce that all previous records had been broken, since no fewer than 535 visitors participated in the Congress. At each of the technical sessions, there was an audience numbering at least 200.

In the report of the Council, mention was made of the fact that a memoir entitled "Observations on some features of modern plant and apparatus used by Gas Undertakings" had been presented to the Council by Mr. Walter T. Dunn, formerly Secretary of the Institution of Gas Engineers.

A Medal was presented to M. C. Peyrelonque in commemoration of his 50 years' membership of the Union Syndicale, and a prize of 5,000 francs was awarded to Messrs. Bro, Coudeville, and Sabonadier for the papers presented by them at the 1933 Congress.

M. L. Carpentier was elected President for the coming year.

We give, below, a summary of the reports and papers presented at the Congress.

Reports of Committees.

Manufacture.—Progress has been made in the compilation of standard specifications for guarantee tests on and acceptance conditions for carbonizing plant. Part of the programme, only, has been completed—namely, that concerned with specifications and tests for refractory materials. The items covered are squares and specials, retorts and retort sections, and jointing cements. Interesting points from the specifications are as follows:

Silica Bricks and Firebricks.—The maximum permitted variations from the specified dimensions is ± 2% for dimensions greater than 4 in. and ± 0·08 in. for dimensions less than 4 in. The average dimensions of N bricks (N = 10, in general) must be within 1%. Tolerances are also laid down for curvature of surfaces.

Silica Bricks.—The silica content must be greater than 94%. The refractoriness must be greater than Cone 32. The refractoriness under a load of 71 lbs./sq. in. must be at least 1,450° C. if the Dupuy apparatus is used or at least 1,500° C. if the Bodin-Méker apparatus is employed. The after-expansion (2 hours at 1,500° C.) must be less than 0·5%. The true specific gravity must be below 2·37. The cold crushing strength must be greater than 1,422 lbs. per sq. in.

Firebricks.—Four grades are covered. In each case the content of oxides other than silica and alumina must be less than 5%.

—	Grade A.	Grade B.	Grade C.	Grade D.
Approximate alumina content . . .	35%	30%	25%	20%
Refractoriness (indicatory only), cone.	32–34	30–32	28–30	26–28
Deformation test. 2 in. by 2 in. by 4 in. pieces shall show no deformation after heating to cone	31	29	27	20
After-contraction (1 hour) shall not exceed 1% at.	1400° C.	1400° C.	1300° C.	1200° C.
After-expansion (1 hour) shall not exceed 0·5% at				
Cold crushing strength (lbs. per sq. in.). Above	1,422	1,422	1,422	1,422

It is to be noted that, in the after-contraction or expansion test, the temperature is fixed by the temperature at which the appropriate Seger Cone squats. For the specified duration of the test, this temperature is maintained with use of a thermo-couple.

Jointing Cements.—The cements must consist of refractory fireclay with and without addition of non-plastic refractory material. They must pass completely a sieve with apertures of 0·08 in. The loss on ignition must be less than 5%. The content of oxides other than silica and alumina must be less than 5%. The silica content must exceed 80% for silica cements and be between 55 and 80% for firebrick cements. The alumina content must be between 35 and 10% for firebrick cements. 2 in. by 2 in. by 4 in. blocks of the cement must resist deformation when heated to Cone 29 (silica cements and cements for Grade A firebricks), Cone 27 (Grade B firebricks), and Cone 20 (Grade C and Grade D firebricks).

Distribution.—Much of the work referred to in the previous report of this Committee has been completed, particularly the study of pressure losses in pipes. A paper embodying the results of the investigation was published during the past year, and a summary of it is contained in the report of the Committee on Distribution.

Propaganda and Utilization of Gas.—A list is given of the awards made in respect of appliances exhibited at the Exhibition of Gas Appliances held in 1934, and a description of these appliances is included. They comprise the Prima water heater (Etablissements Chalot), the Microphi water heater (Société Française de Chaleur et Lumière), the Hydromotrix water heater (Etablissements Saunier, Duval, Frisquet), the Sahara water heater (M. Mourret), the Se 40 gas cooker for hotels (Etablissements Bergerand, de Joly et Cie.), the Strack air heater (Etablissements Strack), an automatic temperature regulator for use with space heaters (Manufacture Métallurgique de la Jonchère), and a reducing valve for consumers' meters (Compagnie Hellis).

Space Heating by Means of Forced Ventilation

L. Mauny described the Strack air heater, by means of which hot air under pressure is provided for the heating of rooms, assembly halls, &c. These heaters are of high capacity as regards heating and ventilation, are small in size, are light in weight without sacrifice of strength, are corrosion resistant, have a high efficiency, are silent in operation, are automatic in action, and are safe in operation. Extensive use is made of aluminium in their construction. The air, drawn in by means of a motor-driven fan, is heated in counter-current flow by the products of combustion of gas, thermostatic control being provided to prevent excessive temperature rise. It is possible to heat the air passing through the heater to a temperature of 200° C. without the temperature of the waste gases exceeding 100° C. Good insulation is provided.

Determination of Naphthalene in Gases and Oils.

The determination of naphthalene is simplified by a method described by P. Vincent, since the use of picric acid is eliminated. The method consists in the determination of the amount of naphthalene required to saturate the gas. To this end, the gas is passed through a drying tower, a heating coil, and a naphthalene saturator contained in a bath of constant temperature. From the loss of weight of the naphthalene contained in the saturator, the weight of naphthalene taken up by a measured volume of the gas is deduced. A table showing the naphthalene content of naphthalene-saturated gas in tenth degrees between 0° and 25° C. enables the naphthalene content of the gas leaving the saturator to be ascertained. By difference, the naphthalene content of the gas under examination is found.

In the case of oil, a known weight of oil is distributed over a cartridge of filter paper contained in an evaporator. Air is drawn over the oil and the air is then passed through a naphthalene saturator at a known temperature, and, finally, through a meter. From a knowledge of the weight of naphthalene removed from the saturator and the naphthalene content of the saturated air as deduced from the table, the naphthalene content of the oil is derived. To ensure that the dry air passed over the sample does not become too heavily charged with naphthalene, the air is heated to a progressively greater temperature (*i.e.*, from 20° to 60° C.) during the course of the test and is cooled prior to reaching the saturator.

When gas containing tar-fog is being tested, the tar fog is absorbed by cotton-wool, and the naphthalene contained in the fog is afterwards estimated by use of the method employed for oils, the quantity present in the tar-fog being added to that present in the vapour form in the gas.

(To be continued.)

Association of Statutory Inspectors of Gas Meters

Annual Meeting at Exeter

The 15th Annual Meeting of the Association of Statutory Inspectors of Gas Meters was held in the Guildhall, Exeter, on Wednesday, July 18. The Civic Authorities, the Directors of the Exeter Gaslight and Coke Company, and the Directors of Messrs. Willey & Co. combined to make the visit one that will be long remembered.

On the Tuesday evening, the delegates and their ladies were the guests at a reception in the Guildhall, by His Worship the Mayor and Mayoress, Mr. and Mrs. J. W. Templeman, and of the Sheriff, Mr. R. J. Rew and Mrs. Rew.

Following the business meeting on Wednesday morning, the delegates were entertained at lunch on the invitation of the Chairman and Members of the Markets and General Purposes Committee. Proposing "The Association of Statutory Inspectors of Gas Meters," the Mayor said that while Exeter was not a manufacturing city, they had one large industry in which they were interested, and of which they were proud. He referred to the Gas Industry, which had done so much to help Exeter, and he was delighted to see at that function many of the Directors of Messrs. Willey & Co. Concluding, the Mayor congratulated Mr. Wills, who was a valued member of their City Council, on his election as President of the Association that morning.

In reply, Councillor Wills, on behalf of the Association, said that it did seem extraordinary that gas meters should be subjected to such severe tests when the Industry's chief competitor was not called upon to exercise anything like the same supervision of its meters. Alluding to the competition that existed in lighting, heating, and cooking, Councillor Wills went on to say that it was amazing that more gas meters were being made and more gas supplied than before. Gas companies, he said, undertook great care and research work in regard to the supply of the commodity to the consumer, and the sale of gas was still increasing.

Sir Cornelius Chambers, proposing "Our Hosts," said in the old days the gas meter was looked upon as a complicated mechanical liar, but as a result of the progress of science, the gas meter to-day was as truthful as the Inspector.

Responding, Mr. C. J. S. Hill (Chairman of the Committee) expressed the hope that when the conference again visited Exeter they would be able to meet in the new civic buildings, which were under contemplation.

Entertained by the Gas Company.

In the evening, the delegates were entertained at dinner by the Chairman and Directors of the Gas Company, supported by Mr. W. M. Westlake, the Engineer and Manager of the Company. Giving "The Association of Statutory Inspectors of Gas Meters," the Chairman, Mr. John E. Daw, J.P., recalled that in 1819 there was a by-law of the Company providing that gas was not to be used on Sundays except by special agreement with the Company; and if after one week's notice by the Company, the by-laws were being deviated from, the offender was subject to a fine of £5. There was a notice in 1839 intimating that from May 1 that year the price of gas was to be 8s. 6d. per 1,000 c.ft. and the following charges—barely the interest on the cost—for the use of meters: 3 light-meter, 3s. 6d. per annum; 5 light, 5s.; 10 light, 6s.; 20 light, 10s. They depended upon the Inspectors for the accuracy of their income from the sale of gas, and to their co-operation with the meter makers in providing the public with a measure which would give confidence and satisfaction. Bearing in mind the benefits that had been secured by the Gas Industry through the system of public stamping of meters, it had always appeared slightly strange to him that the electrical industry had not followed that lead. The electric meter was not independently certified and stamped as was the gas meter, and he suggested that what was required for the public service of gas and water should be made applicable to electricity.

The President of the Association, Councillor W. O. Wills, responding, said the underlying principle of the Association was that the public should have a square deal. Mr. W. Gordon (Edinburgh) supporting, said that the Association had been in existence nineteen years, and one of its principal purposes had been to secure uniformity in the methods of verifying all gas measuring instruments. The development in the use of coal gas as an industrial and commercial factor was going to be very important, and it was gratifying to know that the Gas Industry, notwithstanding the many restrictions laid upon it, was in a prosperous condition.

The Conference ended on Thursday evening after a delightful day as the guests of the Chairman and Directors of Messrs. Willey & Co. After a brief inspection of the Company's works, the delegates were joined by their ladies and proceeded in motor coaches for a tour over the moors to Princetown, where luncheon was served, afterwards proceeding to Paignton via Dartmeet where tea was provided, returning to Exeter by the coast route.

Business Meeting.

At the Guildhall on the Wednesday, the Mayor presided, supported by the Sheriff, Councillor J. W. Willoughby (Salford, President of the Association), Councillor W. O. Wills (Exeter, President-elect), Sir Cornelius Chambers (Birmingham), Bailie Raithby (Edinburgh), and Councillor J. Wheelhouse (Hull), Vice-Presidents; Mr. W. Gordon (Chairman, Executive Council), Mr. W. Templeton (Hon. Secretary), and Mr. C. J. S. Hill (Chairman, Exeter Markets and General Purposes Committee).

The Mayor, welcoming the delegates to the City, said that having met the previous evening, they did not meet as strangers. He was pleased on the occasion of this visit the Sheriff should be one who had interests in the Gas Industry.

The Sheriff (Mr. R. J. Rew), Managing Director of the Devon Gas Association, Ltd., said there had been a very real alliance between Exeter and the Gas Industry ever since gas came into being, and that was yet another instance of the advantage which the City derived from its geographical position. In the early days of the Industry, when transport facilities were not nearly so good, someone had to tackle the manufacture and repairs to appliances connected with it. Such work settled down in Exeter, and the city had been connected with it ever since.

"In fact," commented the Sheriff, "there is no city in the country in which so large a percentage of the population derives its livelihood, directly and indirectly, from the Gas Industry as does Exeter." The meter industry had been in existence about seventy years, and it had remained and flourished in Exeter. Every householder who used gas was dependent on the accuracy of the Inspectors.

Sir Cornelius Chambers moved thanks to the Mayor and Sheriff and said he was in entire agreement with his Worship that municipal authorities should send delegates to such conferences.

The Annual Report.

The President, Councillor J. W. Willoughby, then took the chair for the business meeting, and Mr. W. Gordon (Edinburgh) presented the annual report of the Council, as follows:

Revision of Gas Measures' Acts.—In accordance with the instructions received, the Council duly made representations to the Board of Trade, when it was ascertained that draft revised regulations were in an advanced stage of preparation, and that circulation of the same could be looked for at an early date.

From subsequent information it is learned that there has been a substantial change in the position recently. Actually, the Board are now considering the desirability of first taking steps to amend the law, in which case the Regulations will probably be held back until that is done. The amendment thus foreshadowed is more closely in keeping with the expressed desire of the Association, and will, no doubt, give rise to general satisfaction.

Evasion of Stamping Regulations.—It is not open to question that on the part of some gas undertakings, meters without the official seal or alternatively irregularly sealed, are still being fixed upon the district.

Point is given to this by a recent conviction obtained by the Board of Trade against a gas undertaking for unlawfully supplying gas by means of a meter not stamped in accordance with the Regulations made by the Board of Trade. In this instance the Inspector concerned was at some personal trouble and inconvenience to secure the evidence necessary to obtain the conviction, as the district concerned was outside that of his own authority. This would constitute a practical answer to the dilemma which arose at a previous Annual Meeting, as to who should prosecute in a case of that character.

The Council have on several occasions been advised of districts where sufficient evidence has come to light to

illustrate that irregularities take place, the difficulty being to follow up that evidence to a source that would be acceptable in law to obtain a conviction. The Council have been in communication with the Board of Trade upon this subject, and it is desired that Inspectors shall communicate full details—as far as they may—to the Board of Trade or the Hon. Secretary of such irregularities as may come to their notice, in order that appropriate action may be taken.

It is perhaps appropriate to state here the suggestions—which the Council have not had the opportunity of considering—made by the Inspector concerned upon points arising from the prosecution which took place:

(*a*) That an Inspector of Gas Meters having no power to inspect gas meters *in situ* except on the request of the buyer or seller of gas, an Inspector of Gas Meters should be granted a warrant signed by a Justice of the Peace, authorizing him at all reasonable times to enter any premises in the area for which he is appointed, to inspect any gas meter used for measuring gas between a consumer and seller of gas.

(*b*) In areas where no Inspector of Gas is appointed, that the Local Authority or Justices of each area concerned, should have power to grant a neighbouring Inspector of Gas Meters authority, when he so desires, to inspect any gas meter in use in that area for supplying gas to a consumer.

(c) As the removal and fixing of an Inspector's stamp from one meter to another does not constitute forgery under Section 14, Sale of Gas Act, 1859, if any person removes a stamp from any gas meter and affixes the same to another gas meter he shall be deemed to forge or counterfeit a stamp within the meaning of Section 14 of the Sale of Gas Act, 1859, which says:

> "If any person or persons shall make, except under the authority of this Act, or forge or counterfeit, or cause or procure to be made, except as aforesaid, or forged or counterfeited, or knowingly act or assist in the making, except as aforesaid, or forging or counterfeiting any stamp or mark which may be hereafter used for the stamping or marking of any meter under this Act, every person so offending shall for every such offence forfeit on conviction a sum not exceeding £50 or less than £10; and if any person shall knowingly sell, utter, or dispose of, let, lend, or expose to sale any meter with such forged stamp or mark thereon, every person so offending shall for every such offence forfeit on conviction a sum not exceeding £10 or less than 40s., and all meters with such forged or counterfeited stamps shall be forfeited and destroyed.

Cornering.—In connection with this practice, referred to at a previous meeting, the Council appointed one of their number in company with the Inspector for the district, to wait upon the firm concerned. After stating the views of the Association upon this item, an immediate assurance was forthcoming that on and from that time all micrometer tangents would be securely soldered, which would put an end to the practice complained of.

Seal Rings.—The Council are concerned that insufficient attention is being paid to the proper performance of Regulation 17, in particular the final sentence. They are convinced that a strict observance of the conditions laid down would do much towards eliminating the tampering of seals, of which evidence arises from time to time. It is most important that the seal rings should come well over the joint to give full effect to the security desired.

Suggested Obligations upon Gas Undertakings.—The following suggestions were brought to the notice of the Council, and it was decided to submit them for consideration at the Annual Meeting.

(*a*) That all gas undertakings, before removing a meter from consumers' premises for the purpose of an official test, shall give notice in writing to that effect, and shall submit the official certificate of test on or before rendering the account for gas supplied.

(*b*) That no gas undertaker shall test, run, sound, spray, or tamper in any way with a meter, the accuracy of which is in dispute, before such meter is submitted to the Inspector.

Charging for Gas by Time Factor.—The notice of the Council has been directed to apparatus designed to control the sale of gas upon a time basis without relation to the actual volume consumed. This system is primarily intended to accommodate hotel and boarding house proprietors who pay the gas undertaking for gas used as registered by the initial meter fixed on the service pipe line, and re-sell to their patrons through the appliances referred to. In order to ascertain whether or not this re-sale of gas came within the provisions of the Gas Measures Act the Council approached the Board of Trade, who in reply stated that the question as to whether this instrument contravenes the provisions of the Sale of Gas Acts is one that can only be authoritatively determined by a Court of Law.

In the opinion of the Department the device is neither a measuring instrument within the meaning of the Weights and Measures Acts nor a meter within the Sale of Gas Act, 1859, and therefore a pattern of the apparatus could not be accepted for examination and testing under the provisions of Section 6 of the Weights and Measures Act, 1904.

A Clean Sheet.

Mr. R. J. TRUMP, Controller of the Standards Department, Board of Trade, said that, in connection with the revision of the law relating to the testing and stamping of gas meters, he was not in a position to make any official statement. There had been no general inquiry since 1859-60, and the general feeling was that it would serve no useful purpose to try to patch up the original Act, but that it would be better to start with a clean sheet. He suggested that in case a comprehensive inquiry should mature, it would be advisable for them to sit down and really consider what they wanted.

Mr. G. HUME (City of London) wished to know whether the Association would have an opportunity of considering the draft of any amending legislation that may be proposed.

Mr. TRUMP, in reply, said that no doubt the proceeding would be that the Association would be invited to submit a memorandum setting out their proposals, and he would suggest that the Association would be well advised to formulate a policy of what they wanted, in order to be in a position to submit a representative policy and recommendations to those who would have the new measure under consideration.

On the motion of Mr. J. E. SLOAN (Coventry), seconded by Mr. F. COLBURN (Birmingham), it was resolved that the matter be referred to the Council to formulate a policy for consideration at a future meeting.

Mr. A. WINTERBOTTOM (Manchester) suggested that each member of the Council should endeavour to prepare a policy for submission to the Hon. Secretary in order to facilitate the preparation of an agreed draft. Usually there was only two Council Meetings in the year, and in the time available at those meetings it was hopeless to try and prepare such a memorandum.

Arising from the section relating to evasion of the stamping regulations, Mr. D. W. BALL (Newport) outlined the procedure in connection with the conviction referred to in the report. He maintained that under the existing regulations the position was most unsatisfactory, and that unless they were granted power to enter premises, irregularities would still continue. He accepted that the majority of gas undertakings were only too anxious to comply with the statutory obligations, but the fact remained that there was more than a little evidence that these irregularities were practised in certain areas.

Mr. WATSON (Sheffield) said that he had previously urged the need for the elimination of redundant provisions of the 1859 Act, and for the whole position to be clarified in relation to present conditions. He suggested that any inspection of gas meters upon the district would be futile unless it was a systematic one. If the inspection was only to be made in cases where the Inspector had reason to suspect irregularity, then they would have secured no improvement in the Act. A limited system of inspections might be undertaken whereby meters could be examined to ascertain the year of stamping, and to test those meters which had been in use over a certain period of years. It would at any rate be an advance upon the present conditions, and it might be sufficient to test meters in use once in every five years. Mr. Watson went on to suggest that in areas where there was no duly appointed inspector, the local authority or Justices might, when misuse was suspected, authorize in writing a neighbouring inspector to enter a place for inspection of the meter. He thought it could be even more satisfactory for local authorities who had not adopted the Act to place their area under the jurisdiction of the nearest or most convenient authority who administered the Act. Touching upon the removal and fixing of a stamp from one meter to another, he thought the Council in their report was merely nibbling at the edge of the subject rather than getting down to the core. If an unjust weight or measure was in use, the owner was liable to a penalty, but if a meter happened to be 50% fast, so long as the meter was stamped, no offence was committed. He did not think the inspector had power to obliterate the stamp or require the meter to be re-conditioned or re-stamped. As a revision of the Act was contemplated, he considered the Council should examine the whole question rather than stand upon the few suggestions in the report.

General Power of Energy.

Sir CORNELIUS CHAMBERS considered that the suggestion savoured of dictation to the Justices of the Peace. He suggested that it would be wrong to grant general power of entry, but where there was good reason to suspect improper practice, an inspector should be at liberty to apply to the magistrates for a warrant.

Mr. J. E. SLOAN (Coventry) said that these suggestions should not be taken as the considered opinion of the Council, for they had not been so considered by that body. As a member of the Council, he had the strongest objection to item (*a*), which, in his view, should proceed upon the lines of the Petroleum Act.

Mr. FOSTER (Exeter) considered that in view of what Mr.

Trump had said, the matter should be referred back to the Council, and upon the motion of Mr. COLBURN (Birmingham), seconded by Mr. DALTON (Liverpool), it was resolved that the matter be referred back to the Council for further consideration.

Mr. A. C. NEWTON (Oldham), on the question of Cornering, said that unless a micrometer tangent was securely soldered, sealing the meter was no protection against re-adjustment. He suggested that any revision of the legislation should include some provision to counter this defect. He asked the Council to consider the whole question of the sealing of meters, for he considered it a serious matter that micrometer tangents could be so easily altered. It was agreed that this matter should be referred back.

Mr. WATSON (Sheffield), referring to the suggested obligations upon gas undertakers, said that the whole thing was loosely worded and needed re-phrasing. It would be no use without a penalty. To whom should the official notice be given? and how could it be decided that a meter had not been interfered with in the manner indicated?

Mr. G. F. J. KNOTT (London County Council) said that meters were removed without the gas undertaking giving notice for what purpose they were being removed. If they were found to be excessively slow on being examined in the meter shops, they were then submitted for an official test and certificate, and the consumer received a bill to cover the deficiency, but what became of those meters which the workshop test proved to be against the consumer? They were not submitted for official test and certificate. Mr. Knott said it was quite plain that notice should be given to the consumer.

Mr. F. COLBURN (Birmingham) said that in his district he was notified of the impending removal of any meter in dispute and they were sent direct to his office. This section of the report was also referred back to the Council.

Mr. WATSON (Sheffield) said in connection with the system of charging for gas by a timing instrument, he was at a loss to understand the reply from the Board of Trade. He suggested that such a system could not constitute an offence on the part of a hotel or boarding-house proprietor, as they were not gas undertakers within the meaning of the Act. Mr. Trump said the appliance was not a meter, as it did not measure, and therefore it could not be examined by the Standards Department under section 6 of the Weights and Measures Act, 1904.

Mr. W. GORDON (Edinburgh) suggested that a local authority might institute proceedings as a test.

The report with the recommendations to the Council was then adopted, and in the absence of the Hon. Treasurer (Mr. J. L. Barry, London County Council) the Hon. Secretary read the Treasurer's statement of accounts which was adopted.

Election of Officers.

Councillor J. W. Willoughby's term of office closed with the adoption of the report, and Councillor W. O. WILLS was then elected and took the chair.

Councillor WILLS, returning thanks for his election, said that he fully realized the importance and seriousness of his new position, and it seemed extraordinary to him that it should be filled by a person who had no connection with the Industry. He was pleased that he had been elected, for he felt that in selecting him they were also honouring the local Inspector, M. E. M. Foster, whose worth they all knew.

Other officers were then elected as follows:

Vice-Presidents.

Councillor J. W. Willoughby, M.B.E., J.P., Salford.
Sir Cornelius Chambers, K.T., J.P., Birmingham.
Bailie L. Raithby, J.P., Edinburgh.
J. Farrar, Esq., J.P., Leeds.
H. J. C. Davies, Esq., London County Council.
Councillor J. Wheelhouse, Hull.
H. N. Barrow, Esq., J.P., Manchester.

Hon. Secretary.

Wm. Templeton, Leeds.

Hon. Treasurer.

J. L. Barry, London County Council.

Council.

W. Gordon, Edinburgh.
Geo. Hume, City of London.
G. F. J. Knott, London County Council.
A. Winterbottom, Manchester.
F. Colburn, Birmingham.
E. M. Foster, Exeter.
Jos. E. Sloan, Coventry.

Auditors.

F. A. Rolfe, London County Council.
E. Simpson, Salford.

It was resolved that the next Annual General Meeting be held in London during the week following Whit. week.

Finance Act of 1934

A Summary of the Provisions as Affecting Gas Undertakings and Officials

The enactments of this annual Statute, which passed through all its stages in the House of Lords on successive days and received the Royal Assent on Thursday, July 12, differs but little from the provisions foreshadowed in the Chancellor of the Exchequer's Budget Speech on April 17. The insertion in the Bill subsequently introduced into Parliament of a clause to remove the Land Values Tax provisions of the first Finance Act, 1931 (excepting Section 28 thereof, relating to the registration of documents), from the Statute Book, however, was the occasion for spirited action from the Opposition in the Lower House—which eventually passed the Bill on the Third Reading by 220 votes to 29—and of bitter invective in the Upper Chamber from the former Chancellor whose advocacy at the time of the Socialist Administration was mainly responsible for its introduction. Notwithstanding, the Bill passed through the House of Lords without amendment.

PART I.—Customs and Excise.

Under this heading no fewer than eighteen sections are necessary to amend the rates of duty and conditions applicable thereto in respect of, *inter alia*, hydrocarbon oils (*Sections* 2 *and* 3), arc-lamp carbons (*Section* 4), and mechanically propelled vehicles (*Section* 18).

The imposition of a duty on hydrocarbon oils was first effected by Section 2 of the Finance Act, 1928; this was successively increased by the two Finance Acts which were passed in 1931, but the reduction of the rebate below the rate of duty was not introduced until 1933. The effect was to impose a tax of 1d. per gallon (Finance Act, 1933, Section 6) on heavy oils imported for home consumption—in addition to a tax on stocks held as at April 25, 1933—and several attempts were made, during the Committee Stage this year, either to reduce the tax to ½d. or to exempt from duty such oils used for home consumption. Neither proposal was adopted, and *Section* 2 seeks to close a loophole in the 1933 Act in regard to the exemption from duty of oil which is used "for the purpose of generating heat, light, or power for consumption in the refinery" and renders it inapplicable where oils on which duty has not been paid are used in a factory and emerge in the form of a non-dutiable article.

Section 3 provides for the measurement—for the purpose of Customs duty—of artificially heated oils, and the then Financial Secretary to the Treasury (Mr. Hore-Belisha) stated that it would not be applicable to oil in a tank which was heated by the sun's rays.

Section 18 reduced by 25% as from Jan. 1 next the licence duties in respect of mechanically-propelled vehicles, with the avowed object of encouraging the production of higher power motor-cars for competition in the export market, but the cost of this concession—estimated at £4,000,000 in a full year—will, by virtue of Section 26 (*q.v.*), be borne by the Road Fund.

On the Committee Stage, there was inserted a provision in this clause to remove from the category of mechanically-propelled vehicles chargeable to duty under Section 13 of the Finance Act, 1920, "trailers" which do not exceed 5 cwt. and are constructed and used "solely for the purpose of distributing on the road loose untreated gritting material"—in order, as the mover of the amendment stated, to take away "the effects of untreated tar."

In connection with an amendment put forward by Sir Adrian Baillie relative to the licence duty on steam-propelled and gas-propelled vehicles, the efficiency of the latter was emphasized, and it was pointed out that the method of assessing them to duty—by taking into account the weight of the coal-gas containers and thus placing them at a disadvantage as compared with petrol-driven vehicles—justified a reduction in the scale of duties imposed by the 1933 Act. (A comparison of these rates of duty appeared on p. 304 of the "JOURNAL" for Aug. 9 of that year.) It is regretted, however, that the amendment was not accepted.

PART II.—Income-Tax.

Section 19 reduces the standard rate of income-tax for the year 1934-35 from 5s. to 4s. 6d. in the £, but the

existing rates of surtax are continued in operation (*Section* 20). The former concession is estimated to cost the Exchequer £20,500,000 in respect of the present year and £24,000,000 in a full year.

Section 21 seeks to remedy a flaw in the statutory machinery for the collection of tax upon mineral rents and royalties, the new provision being in consequence of a decision of Finlay, J. (in *Stewart v. Normanby Estate Company*, 1933; 12, A.T.C. 325), that where lease rents in connection with mining rights exceeded the Schedule "A" assessment on the mines in question the excess was not liable to tax. This position is now rectified in favour of the Crown—with retrospective effect in the case of deduction of tax from the payments under General Rules 19 and 21 of the Income-Tax Act, 1918.

PART III. - National Debt, &c.

Section 26 adjusts the contribution from the Treasury to the Road Fund, as enacted by Section 2 of the Roads Act, 1920, in order to provide that the cost of reducing the horse-power tax (*Section* 18) shall not fall on the Consolidated Fund. Despite efforts by local authorities and others to restrict this legalized "raid" on the Road Fund to the current year, the section (26) is applicable to subsequent years—although the Fund will benefit from the increased duties under the Road and Rail Traffic Act, 1933.

PART IV.—Miscellaneous and General.

Section 27 repeals the Land Value Tax, which, although brought into being by the 1931 (No. 1) Finance Act, has been suspended in operation apart from the ascertainment of values. The provisions of that Act (Section 28 of the Finance Act, 1931), however, which prescribed as to the registration with the Commissioners of documents relating to the transfer of land, are specifically excluded from the repeal.

Section 29 was introduced on the Committee Stage of the Bill, and has the effect of removing doubts as to the interpretation of Section 8 of the Finance Act, 1899, in relation to the liability to stamp duty in the case of loans as between several companies in one group. It is now provided that loan capital which is incapable of being dealt in on a Stock Exchange in the United Kingdom shall not be subject to stamp duty. The new provision was accepted by the Chancellor as tending to remove any deterrent effect on the movement of loans within a "family group."

Unaccepted Clauses.

The amendment which was proposed last year to increase from one-tenth to one-fifth the additional wear and tear allowance (calculated on the *quantum* of the allowance) was again brought forward, without success.

Reference has already been made (in connection with *Section* 18) to the unaccepted amendment which aims at removing the injustice by which gas-operated vehicles are penalized—by the inclusion of the weight of the gas cylinder in calculating the "unladen weight" for the purpose of licence duty.

An attempt was made to extend the operation of Section 7 of the Finance Act, 1933, to exempt from tax oil used as fuel by gas, water, electricity, and other public utility undertakings; also in respect of oil used for stationary oil engines as power fuel.

An amendment was brought forward to secure that the legal costs incurred by a taxpayer in appeals under the Income-Tax Act, 1918—both before the Commissioners for Income-Tax and in the High Court—should be paid by the Crown, but this long-needed reform suffered the usual fate.

A proposal was made that the owner of a mechanically-propelled vehicle used for the purposes of a trade should be entitled to an "obsolescence" allowance of 20%—in order, presumably, to encourage its early replacement.

A new clause, to repeal the right to appeal to the Board of Referees, under the Finance Act, 1922, in the case of companies assessed to supertax was negatived.

Adopting a Progressive Sales Policy*

By Duncan Macpherson, Port Chalmers.

Before deciding to adopt a progressive sales policy at Port Chalmers several problems had to be solved. The first was the selling price of gas. Our rates at that time were:

	s.	d.	
100 c.ft. to 1,900 c.ft. per month at	9	2	per 1,000 c.ft.
2,000 c.ft. to 4,900 c.ft. " "	8	4	" "
5,000 c.ft. and over " "	7	6	" "

After due consideration I recommended the following rates which were adopted and are still in force:

	s.	d.	
100 c.ft. to 900 c.ft. per month at	9	2	per 1,000 c.ft.
1,000 c.ft. to 1,900 c.ft. " "	8	4	" "
2,000 c.ft. to 4,800 c.ft. " "	7	6	" "
4,900 c.ft. to 9,500 c.ft. " "	6	8	" "
9,600 c.ft. and over " "	6	3	" "

For storage water heaters an allowance of 60,000 c.ft. per year at an inclusive charge of £10. Gas consumed in excess of that amount to be charged at the rate of 4s. 6d. per 1,000 c.ft.

The next problem was the cost of appliances and the method of paying for them. We decided that any consumer paying cash for an appliance could have same at net cost to the department *plus* the freight and cartage. Our reason for doing this was to induce as many consumers as possible to take advantage of those favourable conditions. Our next problem was the deciding of hire-purchase terms. It was recognized that these must be as inducive as possible, bearing in mind the fact that the majority of our consumers were working people. The first point was the length of time to be allowed for payment. We finally decided on five years as being the most suitable. The next point was the fixing of a price schedule. It has always to be borne in mind that it is necessary to get a reasonable return on the capital outlay. The price to the consumer was fixed as follows: Cost of appliance to the department, *plus* 10% profit, *plus* interest at the rate of 3¾% on cost price for the five years period. The deposit for appliances over £20 was fixed at 10s., and for those under £20 a deposit of 5s. The price of a good cooker under these terms is as follows:

	£	s.	d.
Cost to department	15	0	0
Profit, 10%	1	10	0
Interest, 5 years at 3¾%	2	16	3
Cost to consumer	£19	6	3

Payment was arranged as follows: Deposit 5s., and a weekly instalment of 1s. 6d. For appliances costing more, or less, the weekly payment was greater or smaller accordingly.

We have found this system most satisfactory and have experienced very little difficulty in keeping instalments up to date. As stated previously, by far the greater number of our consumers are working people, and when planning the instalments I took the precaution of making them payable weekly. This eliminates the possibility of a consumer getting too far in arrears. We also adopted what we call our pay-by-meter system. Under this system a consumer can purchase any appliance and have a prepayment meter fitted. The quantity of gas per shilling is reduced so that a portion of each shilling put into the meter goes to pay for the appliance, the meter being set to give 84 c.ft., 90 c.ft., or 96 c.ft. per shilling, the quantity being based according to the price of the appliance combined with the possible consumption. It is surprising the number of consumers who have taken advantage of this system of payment.

Our next consideration was a showroom. In my opinion this is essential, as it has the advantage of keeping appliances in full view of the people. We secured suitable premises in the main street, and although not very commodious, we were able to make quite a striking display. We stocked only the best class of appliances. It is worth keeping in mind that in 95% of your sales the woman is the deciding factor, and appearance counts with her. Knowing the advantages of being able to demonstrate just how any appliance works, I fitted the showroom in such a manner that it was only a few minutes' work to connect the gas to any appliance.

It is essential that personal contact between the Department and its consumers be constantly maintained. Have a system whereby a visit is paid at regular intervals to inspect appliances. If you think this is wasted time try it for six months, and you will find your consumers are taking a greater interest in the uses of gas. The successful small works manager is the one who will use every means in his power to create a feeling of goodwill, trust and dependence between all consumers and the Department.

* Extract from paper before Tenth Annual Meeting of the Gas Institute of New Zealand, February, 1934.

INSTITUTION EXAMINATIONS

Complete Results for 1934

The undermentioned Candidates were successful in the 1934 Examinations in Gas Engineering and Gas Supply of The Institution of Gas Engineers, held under the Education Regulations of The Institution of Gas Engineers, as approved by the Government Education Departments of Great Britain and Ireland, and the City and Guilds of London Institute.

The Results do not include Candidates (*a*) who withdrew before the Examination, or (*b*) who, having Second Class Certificates, re-sat and failed to secure First Class Certificates, or (*c*) whose Examination has not been completed.

Appended is the Report of the Board of Examiners on the 1934 Examinations.

J. R. W. ALEXANDER,
Secretary.

28, *Grosvenor Gardens,*
London, S.W. 1.
25th July, 1934.

Comparative Statistical Schedule of the 1933 and 1934 Examination Results.

Examinations.	1933.					1934.				
	First Class Distinction.	First Class.	Second Class.	Failed.	Total Sat.	First Class Distinction.	First Class.	Second Class.	Failed.	Total Sat.
External—										
Diploma in Gas Engineering . .	..	3	10	3	16	..	3	4	2	9
H.G. Gas Engineering	..	5	12	4	21	1	8	12	8	29
O.G. Gas Engineering	..	3	12	16	31	1	10	17	20	48
O.G. Gas Engineering (single subject)	..	..	..	..	*Nil*	..	1	..	..	1
Diploma in Gas Engineering (Supply)	..	..	1	..	1	..	..	..	..	*Nil*
Diploma in Gas Supply	..	..	..	1	1	..	1	..	..	1
H.G. Gas Supply	..	5	3	1	9	..	3	4	8	15
O.G. Gas Supply	..	8	9	2	19	1	9	7	4	21
O.G. Gas Supply (single subject) .	..	3	4	..	7	..	4	4	..	8
Internal—										
H.G. Gas Engineering	..	15	20	24	59	1	29	38	15	83
O.G. Gas Engineering	1	16	23	21	61	5	9	22	10	46
O.G. Gas Engineering (single subject)	..	3	3	..	6	1	2	2	..	5
H.G. Gas Supply	1	12	22	7	42	2	11	25	11	49
O.G. Gas Supply	9	35	46	16	106	8	24	54	19	105
O.G. Gas Supply (single subject) .	4	23	11	..	38	4	10	10	1	25
Total	15	131	176	95	417	24	125	199	98	446

EXTERNAL CANDIDATES (86).

Diploma in Gas Engineering (Manufacture) (7).

Class.	Name.	Town.	Subject of Thesis.
First . .	Brockbank, S. .	Walsall . . .	"A Consideration of the Factors influencing the Cost of Gas Production during the Times of Reduced Load."
,, . .	Dawkins, B. W. .	London . . .	"A Comparison between Internal and External Producers for Heating Horizontal Retorts."
,, . .	Petersen, C. F. .	East Grinstead .	"The Production of the Maximum Yield of Ideal Domestic Coke from Horizontal Retort Settings."
Second .	Dickson, D. L. .	Cowdenbeath .	"The Storage Capacity necessary for Present Day Requirements, the necessary Inspection Records and Maintenance for Efficient Gasholder Working."
,,	Scott, D. W. G. .	Birmingham .	"The Influence of Design on Carbonizing in Continuous Vertical Retorts."
Second .	Tunstall, R. B. .	London . . .	"The Deposition of Gum from Town's Gas."
,, .	Walsh, J. B. . .	Altrincham . .	"Notes on the Operation of Step Grate Producers."

Higher Grade Certificate in Gas Engineering (21).

Class.	Name.	Town.
First . . .	Corrin, C. R.	Onchan, Isle of Man *
,, . . .	Dawson, P. R.	Kendal
,, . . .	Fillery, E. J.	Newark
,, . . .	Foulds, R. W.	Southport
,, . . .	Garside, R. B.	Morecambe and Heysham
,, . . .	Jolly, F. H.	Preston
,, . . .	Jones, S. T.*	Colwyn Bay
,, . . .	Patching, H. J.	Deal
,, . . .	Siddons, V. J. J. . . .	Barnsley
Second . . .	Bichard, C. T.	Guernsey, C.I.
,, . . .	Burnet, H.	Preston
,, . . .	Cole, H. A.	Yeovil
,, . . .	Corris, E.	Morecambe and Heysham
,, . . .	Curtis, G. W.	Birchington-on-Sea
,, . . .	Day, J. A.	Hitchin
,, . . .	Lee, P. N.	West Hartlepool
,, . . .	Royston, J.	Kildwick
,, . . .	Rumble, D. L.	Reading
,, . . .	Walker, W.	Lytham
,, . . .	Waterfield, L.	Newcastle, Staffs.
,, . . .	Webster, F. J.	West Hartlepool

*With Distinction.

Ordinary Grade Certificate in Gas Engineering (28).

Class.	Name.	Town.
First	Brown, A.*	Leven
,,	Colclough, K. M.	Talke
,,	Fitton, G.	Dewsbury
,,	Gaskarth, J.	Maryport
,,	Hempsall, N. W.	Holywell
,,	Kelly, J. H.	Kendal
,,	Matthews, N.	Bolton
,,	Price, L. P.	Paignton
,,	Smith, J.	Workington
,,	Whitehurst, F. L.	Stoke-on-Trent
,,	Wilson, J.	Newport, Mon.
Second	Birks, H. E. S.	Goole
,,	Burkhill, G. E.	Crewe
,,	Colpus, R. H.	Margate
,,	Hobson, R.	Grimsby
,,	Holmes, A. E.	South Bank
,,	Holt, P. E.	Ilkeston
,,	Martindale, J. R.	Bristol
,,	Millington, H.	Birkenhead
,,	Nicholson, M. C.	Cockermouth
,,	Pask, W. A.	Caldicot
,,	Smith, N. S.	Birmingham
,,	Stacey, J. W.	Sheffield
,,	Thickins, R. R.	Ebbw Vale
,,	Vince, D. A.	Swindon
,,	Whiting, R.	Bromley, Kent
,,	Wilson, J. L.	Kendal
,,	Young, C. A. W.	Shrewsbury

* With Distinction.

Ordinary Grade (Single Subject) Examination in Gas Engineering to qualify to sit for the Diploma Examination in Gas Engineering (Supply) (1)

Class.	Name.	Town.
First	Bremner, J. R.	Ilford

Diploma in Gas Supply (1).

Class.	Name.	Town.	Subject of Thesis.
First	Sullivan, H. D.	Plymouth	"Economic Considerations of Central Heating by Gas."

Higher Grade Certificate in Gas Supply (7).

Class.	Name.	Town.
First	Hawkings, B. G. H. J.	Plymouth
,,	Leather, A. J.	Blackburn
,,	Pinder, A. H.	Birmingham
Second	Derbyshire, J. A.	Darwen
,,	Gunning, H. A. J.	Bristol
,,	Halliwell, F. B.	Rotherham
,,	Wilkes, J. E.	Sunninghill

Ordinary Grade Certificate in Gas Supply (17).

Class.	Name.	Town.
First	Anderson, E. C.	Birkenhead
,,	Blane, D. F.	Wolverton
,,	Brown, A.*	Leven
,,	Chattington, G.	Blackpool
,,	Hampton, T. H.	Douglas, Isle-of-Man
,,	Lord, J. F.	Darlington
,,	Manning, C. W.	Bristol
,,	Riches, N. F.	Ramsgate
,,	Siddons, V. J. J.	Barnsley
,,	Wilson, J. L.	Kendal
Second	Bennett, F. T.	Rochester
,,	Bishop, S. G.	Wimborne
,,	Cooper, I. S.	Clevedon
,,	Foulds, R. W.	Southport
,,	McDougall, T.	Galashiels
,,	Pearson, C. H.	Southampton
,,	Reynolds, B.	Exeter

* With Distinction.

Ordinary Grade (Single Subject) Examination in Gas Supply to qualify to sit for the Diploma Examination in Gas Engineering (Manufacture) (4).

Class.	Name.	Town.
First	Blenkiron, A.	Bradford
,,	Jolly, F. H.	Preston
,,	Warne, G. G.	Portsmouth
,,	Wright, H. I.	Luton

INTERNAL CANDIDATES (245).

Higher Grade Certificate in Gas Engineering (68).

Class.	Name.	Centre.
First	Clough, J.	Burnley
,,	Field, A.	Bradford
,,	Field, E. B.	Blackburn
,,	Foster, D. A.	Manchester
,,	Fox-Andrews, J. S.	Bath
,,	Freshney, C. E. N.	Glasgow
,,	Gledhill, W. M.	,,
,,	Haslam, G.	Manchester
,,	Hayes, T.	Leeds
,,	Hemingway, C. W.	Leeds
,,	Henderson, N.	Manchester
,,	Hutchinson, R.	Sheffield
,,	King, F. H.	Manchester
,,	Latham, R. W.	Regent Street Polytechnic
,,	McManus, J. E.	Newcastle-upon-Tyne
,,	Malsbury, J.	Regent Street Polytechnic
,,	Mitchell, C. B. S.	Manchester
,,	Murray, G. F. J.*	Plymouth
,,	Nash, C. W.	Regent Street Polytechnic
,,	Pickard, A.	Leeds
,,	Pleaden, R. F.	Birmingham
,,	Reeve, C. G.	Regent Street Polytechnic
,,	Rhodes, W.	Bradford
,,	Roberts, L. G.	Birmingham
,,	Smith, E. G.	Glasgow
,,	Smith, W. J.	Birmingham
,,	Stevenson, E. W.	Leicester
,,	Ward, H. A.	Birmingham
,,	Westwood, R. A.	,,
,,	White, W. H.	Regent Street Polytechnic
Second	Blackburn, W.	Manchester
,,	Briggs, W. A.	Newcastle upon-Tyne
,,	Canning, J. H.	Cardiff
,,	Crump, S. C.	Birmingham
,,	Cureton, R. S.	Manchester
,,	Curry, H.	Blackpool
,,	Firth, H.	Bradford
,,	Gilchrist, W.	Glasgow
,,	Goodale, A.	Regent Street Polytechnic
,,	Graham, J. C.	Newcastle-upon-Tyne
,,	Hainsworth, W. T.	Leeds
,,	Hall, A. A.	Regent Street Polytechnic
,,	Hathaway, W. L.	Birmingham
,,	Holmes, G. G.	Regent Street Polytechnic
,,	Jessop, C. U.	Sheffield
,,	Keeble, K. F.	Birmingham
,,	Knight, J. V.	Regent Street Polytechnic
,,	Miller, R.	,, ,,
,,	Newsome, M.	Manchester
,,	Parsons, R. E.	,,
,,	Pollicott, F. S.	Derby
,,	Rees, K. C.	Regent Street Polytechnic
,,	Richardson, J.	Sheffield
,,	Robinson, A.	Bradford
,,	Rose, W.	Glasgow
,,	Stewart, E. R.	Burnley
,,	Taylor, N. A.	Derby
,,	Taylor, N. R.	Birmingham
,,	Thomas, G. E.	Cardiff
,,	Thorndycraft, J. B.	Regent Street Polytechnic
,,	Tilley, J. G.	Birmingham
,,	Turner, G.	Manchester
,,	Turner, G. O.	Regent Street Polytechnic
,,	Tweddell, T. C.	,, ,,
,,	West, A. E.	Birmingham
,,	Williams, J. H. S.	Manchester
,,	Woodcock, J. A.	,,
,,	Yorke-Davies, G.	Regent Street Polytechnic

* With Distinction.

Ordinary Grade Certificate in Gas Engineering (36).

Class.	Name.	Centre.
First	Beavis, D.*	Glasgow
,,	Cowper, J.	Kirkcaldy
,,	Davidson, D. W.*	Edinburgh
,,	Haigh, A. W.*	Bradford
,,	Macdonald, A.	Kirkcaldy
,,	March, J. D.	Bath
,,	Mitchell, A. A.	Edinburgh
,,	Mitchell, W. P.	Glasgow
,,	Napier, T. P.*	Kirkcaldy
,,	Norton, R. L.	Westminster
,,	Richmond. E. H.	,,
,,	Ricketts, T. S.	Regent Street Polytechnic
,,	Tidball, F. N.*	Birmingham
,,	Weston, P. S.	Bath
Second	Ashton, J. H. F.	Wrexham
,,	Baker, M.	Birmingham
,,	Barrington, A. H.	Derby
,,	Bird, J. S.	Birmingham
,,	Butlin, W. N.	,,
,,	Cook, G. R. T.	Leeds
,,	Cox, C. P.	Regent Street Polytechnic
,,	Dennis, G.	Plymouth
,,	Dougherty. C. J.	Leeds
,,	Gunn, A. D. C.	Cardiff
,,	Harvey, F.	Birmingham
,,	John, T. O. G.	Cardiff
,,	Johns, F. S.	,,
,,	Keene, C.	Regent Street Polytechnic
,,	Livingstone, T. B.	Glasgow
,,	Longhurst, R. S.	Manchester
,,	Marshall, I.	Bradford
,,	Preston, W.	,,
,,	Sumner, A. E	Regent Street Polytechnic
,,	Thomas, N. H.	Bradford
,,	Thornton, D. H.	Regent Street Polytechnic
,,	Wilson, J. F	Dundee

* With Distinction.

Ordinary Grade (Single Subject) Examination in Gas Engineering to qualify to sit for the Diploma Examination in Gas Engineering (Supply) (3).

Class.	Name.	Centre.
First	Hedges, A. F.	Westminster
,,	Junkison, N. R.*	,,
,,	Porter, W. H. B.	Newcastle-upon-Tyne

* With Distinction.

Higher Grade Certificate in Gas Supply (38).

Class.	Name.	Centre.
First	Boothroyd, R.	Huddersfield
,,	Campbell, W. C.*	Glasgow
,,	Cardy, L. A.*	Westminster
,,	Eames, F. S.	,,
,,	Hayes, S. W.	,,
,,	Howarth, R.	Huddersfield
,,	Law, J. E.	Westminster
,,	Mitchell, J. K.	Bradford
,,	Munns, R. M.	Westminster
,,	Rouse, D. H.	,,
,,	Smith, S. A.	,,
,,	Tarrant, A. R.	,,
,,	Wright, P. G.	,,
Second	Allsop, S. F.	Birmingham
,,	Avis, H. W.	Westminster
,,	Coltman, E. A.	,,
,,	Currie, W. A.	Glasgow
,,	Davison, R. P.	Newcastle-upon-Tyne
,,	Dawson, F.	Huddersfield
,,	Dines, F. C.	Westminster
,,	Edmonds, W. H.	East Ham
,,	Evetts, G. W.	Westminster
,,	Freshney, C. E. N.	Glasgow
,,	Hentschel, H. M.	Westminster
,,	Miller, H. N.	Newcastle-upon-Tyne
,,	Millican, K. G.	,, ,,
,,	Nicol, D. R.	Westminster
,,	Raistrick, H.	Bradford
,,	Rhodes, N.	,,
,,	Roberts, F.	,,
,,	Ross, J. E.	Westminster
,,	Scarth, A. P.	,,
,,	Tatam, J. W. G.	,,
,,	Tyndall, K. H.	Huddersfield
,,	Webster, R. H.	,,
,,	Whitehead, H.	,,
,,	Wigley, W. G.	Westminster
,,	Wright, H. T.	,,

* With Distinction.

Ordinary Grade Certificate in Gas Supply (86).

Class.	Name.	Centre.
First	Andrewes, N. A.	Westminster
,,	Baxendale, R. F.	,,
,,	Bentley, G. A.	Huddersfield
,,	Bingham, G.*	Leicester
,,	Carr, J.*	Newcastle-upon-Tyne
,,	Clark, A. H.	Westminster
,,	Cowper, J.	Kirkcaldy
,,	Cropper, C. F.	East Ham
,,	Davies, N. G.	Westminster
,,	Davison, D. W.	Edinburgh
,,	Dyson, H.	Huddersfield
,,	Emrys-Roberts, G. W.	Westminster
,,	Fair, H. W. D.*	East Ham
,,	Fisher, M. R.	Leicester
,,	Foot, J. A. A.	Westminster
,,	Healy, D. E.	,,
,,	Hedges, H. R.	,,
,,	Macdonald, A.	Kirkcaldy
,,	Maylam, J. B.	Westminster
,,	Meadows, S. L.*	East Ham
,,	Mitchell, A. A.*	Edinburgh
,,	Mitchell, W. P.	Glasgow
,,	Napier, T. P.*	Kirkcaldy
,,	North, A. V.	Birmingham
,,	Salter, F. E. F.*	South-East London
,,	Schofield, G.	Huddersfield
,,	Smith, A. C. D.	Westminster
,,	Smith, H. R.	Birmingham
,,	Taylor, L. N. J.	Westminster
,,	Tennyson-D'Eyncourt, R. E. L.	,,
,,	Wolstenholme, D.	Huddersfield
,,	Yates, J. W.	Westminster
Second	Bate, A. R.	Birmingham
,,	Bayley, F. W.	Westminster
,,	Bell, R. C.	,,
,,	Black, E. W.	,,
,,	Brookes, J. T.	,,
,,	Brown, E. M. F. P.	,,
,,	Cockshoot, G.	Manchester
,,	Dimond, L. H. C.	Westminster
,,	Ehlen, L. B.	East Ham
,,	Farr, A. G. R.	Westminster
,,	Forrest, E.	,,
,,	Gaunt, N. A. J.	,,
,,	Giles, R. P.	,,
,,	Godbolt, W. E.	,,
,,	Greaves, L. W. P.	,,
,,	Grimshaw, H.	Manchester
,,	Hardy, L. H.	Birmingham
,,	Hicks, L. A.	Westminster
,,	Hodgkiss, J. R.	Tunstall, Stoke-on-Trent
,,	Huett, T. R. C.	South-East London
,,	Hunt, J. R.	Birmingham
,,	Ireland, N. W.	Westminster
,,	Jacobsen, L. J.	,,
,,	Lock, H. W.	,,
,,	Lockhart, D. A.	,,
,,	Lukis, E.	,,
,,	Lynch, W. J. H.	,,
,,	Mann, L. V. S.	Birmingham
,,	Metcalfe, A. A.	Bradford
,,	Nangle, J.	Manchester
,,	Parnell, W. M. K.	Westminster
,,	Paxton, T. J.	Newcastle-upon-Tyne
,,	Perrin, H. G. W.	East Ham
,,	Pitcairn, J.	Kirkcaldy
,,	Ralph, F. J.	South-East London
,,	Reid, A. C.	Leeds
,,	Rendell, D. C.	Westminster
,,	St. Leger, A. A.	,,
,,	Sayer, W. H.	,,
,,	Shergold, R. A.	,,
,,	Spurrier, E. J.	,,
,,	Stiles, R. A.	,,
,,	Style, H. A.	,,
,,	Suddards, F.	Bradford
,,	Turner, G. A.	Westminster
,,	Ungate, H. S.	,,
,,	Walker, J. N.	Huddersfield
,,	Wheeler, E. F.	South-East London
,,	White, J.	Birmingham
,,	Whitworth, J. A.	Manchester
,,	Williams-Thompson, R. B.	Westminster
,,	Winmill, L. G.	,,
,,	Wood, V.	Bradford
,,	Wright, S. F.	Westminster

* With Distinction.

Ordinary Grade (Single Subject) Examination in Gas Supply to qualify to sit for the Diploma Examination in Gas Engineering (Manufacture) (14).

Class.	Name.	Centre.
First	Bates, E.	Leeds
,,	Fox-Andrews, J. S.	Bath
,,	Gilden, G.*	Manchester
,,	Gledhill, W. M.	Glasgow
,,	Haffner, A. E.*	Westminster
,,	Latham, R. W.	,,
,,	Malsbury, J.	,,
,,	Matthew, J. R.	Newcastle-upon-Tyne
,,	Rickard, C. H.	Leeds
,,	Sawers, T. R.	Glasgow
,,	Tilley, J. G.	Birmingham
,,	Walsh, J. B.*	Manchester
,,	Webber, J. M. E. W.*	Westminster
,,	Young, J. M.	Leeds

* With Distinction.

1934 REPORT OF THE BOARD OF EXAMINERS

The Board of Examiners is pleased to submit to the Gas Education Committee, for presentation to the Council of The Institution of Gas Engineers, its Report on the 1934 Examinations held under the Education Regulations of the Institution, as approved by the Government Education Departments of Great Britain and Ireland and the City and Guilds of London Institute.

During the year 1933-34, the members of the Board of Examiners and the Assessors appointed by the Council were:

Major Courses.

Examiners: Harold C. Smith, M.Inst.C.E. (London), Chairman; J. M. Campbell, J.P. (Margate), J. H. Canning, O.B.E., J.P., F.C.S. (Newport, Mon.), T. Carmichael, M.Inst.C.E., M.I.Mech.E. (Portsmouth), R. Robertson (Bristol), and Dr. E. W. Smith, C.B.E. (London)—Gas Engineering. W. A. Bishop (Croydon), S. B. Chandler, A.M.I.Mech.E. (London), J. G. Clark (London), W. Dieterichs (London), H. R. Hems (Birmingham), and E. F. Keable (Gorleston-on-Sea)—Gas Supply.

Assessors: England and Wales: R. Robertson (Bristol)—Gas Engineering; S. B. Chandler, A.M.I.Mech.E. (London)—Gas Supply. West of Scotland: David Fulton (Helensburgh) and John W. McLusky, M.I.Mech.E. (Glasgow)—Gas Engineering and Gas Supply. East of Scotland: H. H. Gracie (Edinburgh) and J. W. Napier (Alloa)—Gas Engineering and Gas Supply.

Minor Courses and Gas Fitting Courses.

Examiners: E. Crowther, M.Eng., A.M.Inst.C.E. (Bradford)—Gas Works Practice; E. F. Keable (Gorleston-on-Sea)—Gas Supply Practice; W. Dieterichs (London)—Gas Fitting.

HAROLD C. SMITH,
Chairman,
Board of Examiners.

J. R. W. ALEXANDER,
Secretary,
The Institution of Gas Engineers.

28, Grosvenor Gardens,
London, S.W. 1,
27th June, 1934.

The work submitted for the 1934 Examinations in Gas Engineering and Gas Supply of The Institution of Gas Engineers indicated that a higher standard is being maintained in most Grades. The majority of candidates in answering Questions still fail to realize that sketches should be used to obviate long and involved written statements and that such sketches should be simple line drawings, approximately to scale, rather than elaborate detailed drawings. A minority of candidates used sketches to great advantage. Many answers indicated that insufficient time had been devoted to considering the Questions before commencing the replies.

Gas Engineering students are still inclined to neglect the Chemical aspect of Engineering Questions. It should be realized that problems of Distribution are of increasing importance. Specialized instruction on the Industrial applications of gas should be made available for Gas Supply students.

Ordinary Grade Certificate in Gas Engineering.

The standard of work submitted by Internal candidates for the Ordinary Grade Certificate in Gas Engineering was generally higher. The balance between theoretical and practical knowledge was more evenly maintained.

The work submitted by External candidates did not indicate marked improvement in any particular direction, although the general standard was improved. The knowledge displayed was inclined to be theoretical rather than practical, little evidence being shown of a combined experience of working operations and chemical reactions.

Higher Grade Certificate in Gas Engineering.

The work of Internal and External candidates for the Higher Grade Certificate in Gas Engineering was of fairly good standard, but whilst candidates appeared to have an extensive knowledge of the Questions asked, they often omitted important practical points in their Answers.

Diploma in Gas Engineering (Manufacture).

In the Examination for the Diploma in Gas Engineering (Manufacture) the standard was improved and, having regard to the extensive Syllabus of the Examination, the Answers to the Questions were generally creditable.

More attention should be paid to the orderly presentation of calculations and figures illustrating the economics of various processes, as this better conveys the knowledge of candidates.

Knowledge of the efficiencies and economics of plant and apparatus is expected in addition to construction, function, and operation. Design, particularly gasholder design, requires attention.

Ordinary Grade Certificate in Gas Supply.

The work submitted by Internal candidates for the Ordinary Grade Certificate in Gas Supply was of a higher standard, the Questions being well answered and indicating that good training had been given by the Teachers.

The work of External candidates was good and showed that attention had been given to both Main and Ancillary Subjects.

Higher Grade Certificate in Gas Supply.

The work of Internal and External candidates for the Higher Grade Certificate in Gas Supply was not of sufficiently high standard and, in view of the importance of the subject matter of most of the Questions, the Answers were disappointing. Little knowledge was shown of Main and Service requirements and the Industrial Question was attempted only by a few candidates.

Diploma in Gas Engineering (Supply) and in Gas Supply.

There were no candidates for the Diploma in Gas Engineering (Supply) and only one for the Diploma in Gas Supply.

Minor Course Certificates in Gas Works Practice and Gas Supply Practice.

The Report of the Examiners of the City and Guilds of London Institute on the 1934 Examinations for Minor Course Certificates indicates a slight improvement generally in the work of candidates in Gas Works Practice, although they appeared to find difficulty in expressing such knowledge as they had acquired, which appeared to be theoretical rather than practical.

The work of candidates in Gas Supply Practice was of a lower standard and the sketching was poor. More study should be given to the subject of Gas Engines.

Gas Fitting Certificates.

The Report of the Examiners of the City and Guilds of London Institute in Gas Fitting indicates slight improvement in Grade I. and the Final Examination, but the need for further practice in working to dimensions was again evidenced in the Practical Examinations. The results in Grade II. approximated to those of 1933.

Gas Companies' Results

Brechin.

After making allowances for the reserve and contingent funds and depreciation, a balance of £2,953 was carried forward. The Directors recommended the payment of a dividend of 2s. 6d., *plus* a bonus of 9d. per £1 share. Gas sales for the year created a record despite a reduction in the price of 1d. per 1,000 c.ft. The income derived from gas sold increased by £160. A further reduction in the price of gas is to take place in August, which will make it 4s. per 1,000 c.ft.

Catrine.

At the general meeting of Catrine Gas Company, Ltd., it was announced that the Directors were recommending a dividend of 2s. per share. Messrs. D. Bryan and K. McK. Macklam, retiring Directors, were re-elected to the Board, as well as Mr. William Hamilton.

Comrie.

At the annual meeting of the Comrie Gas Light Company, held last week, it was stated that in spite of the introduction of electricity into the district, the consumption of gas had again shown a large increase during the past year. A dividend of 5% was declared on the shares of the Company.

Kirriemuir.

The Directors of the Kirriemuir Gas Company, Ltd., have declared a dividend of 12½%, less tax. At the annual meeting, Mr. James Peters was re-elected Chairman, and Mr. James H. Joiner Vice-Chairman. The retiring Directors, Mr. James Barrie and Mr. James Barron, were also re-elected.

Lochgelly.

The Directors of the Lochgelly Gas Company have declared a dividend of 3½%. At the annual meeting the Chairman stated that the Directors had agreed to purchase protection from mineral workings for £5,000, payable in five yearly instalments, the first of which was allowed for in this year's accounts. The retiring Directors, Mr. Alexander Westwater and Mr. John Mitchell, were unanimously re-elected. Mr. Andrew Nisbet, it was intimated, had been appointed Manager and Secretary and Mr. Alexander McNeil Works Manager.

Muirkirk.

A dividend of 10% has been declared by Muirkirk Gaslight Company. At the annual meeting it was pointed out that national and county taxation had risen from 8s. 6d. per ton of coal carbonized in 1930 to 23s. 11d. in 1934. Messrs. William Brown and John Johnstone were re-elected as Directors.

New Romney.

The statement of accounts shows a profit of £811, which is £345 less than last year. This decrease is due to a reduction in the price of gas. The amount of gas sold during the year shows an increase of 60,100 c.ft. Residuals realized less than in the previous year owing to the reduced price of coke. The Directors recommended the payment of a dividend of 9%, less income-tax, and the transference of £200 to the reserve fund.

Stirling.

The Directors' report shows that the balance brought forward from last year was £7,179, and the profit on the year amounted to £13,005. An interim dividend of 4s. 3½d. per share on the original capital and 5s. per share (both less tax) on the new ordinary capital has been paid, and the Directors recommended that out of the balance at the credit of the year's revenue account there be paid a final dividend at the rate of 9s. per share on the ordinary capital and 10s. 6d. per share on the new ordinary capital. They also recommended that there should be transferred to the reserve fund £878, leaving a balance of £9,417 carried forward to next year. Since the installation of new plant, in carbonizing and purifying wages £1,209 has been saved. Repairs and maintenance of plant are also considerably down to the extent of £1,751. On the revenue side there is an improvement in residuals. Coke realized £560 more than last year, and the improvement in tar was £1,264. In view of these results, the Directors recommend a reduction in the price of gas by ½d. per therm.

Uppingham.

The annual report for the year ended March 31, 1934, shows that receipts amounted to £3,733. The profit on the year's working was £382, and the Directors recommend a dividend of 7½%, free of income-tax.

Notes on Plant and Processes

Progress in Colour Finishes.

Nobody doubts the importance of colourful and hygienic appliances in retaining the loyalty and goodwill of gas users and winning new consumers. Even such utilitarian appliances as wringers and washing machines are beautifully finished in coloured enamels; baths and bathrooms are no longer white; the humblest domestic appliance has some claim to beauty. In any review of progress, however, it must not be overlooked that the difficulties of obtaining suitable finishes with the necessary speed and economy have been considerable. The enterprise of the Gas Industry as a whole in this respect has never been in doubt, and the honours should be shared by those firms who have with dogged perseverance—and sometimes setbacks—evolved modern heat-resisting enamels suitable for the renovation of the old black cooker.

Prominent from the outset in the quest for a material combining beauty and heat-resistance with simple application and low cost have been Messrs. Donald Macpherson & Co., Ltd., with their "Foochow" Oriental Lacquer, and their latest finishes are claimed to have reached this goal with a minimum of compromise between speed and reliability. Beauty goes without saying, for these materials are, above all, attractive to the eye. Among the most popular of these latest finishes are "Meerschaum," "Self Oak," and "Oxi-Di-Silver," the names chosen being sufficient description of the effects achieved. In the case of the "Oxi-Di-Silver" finish, which has been specially evolved for the treatment of unlagged cookers, this, the makers inform us, has been tested for 1,000 hours' continuous heat at full pressure without showing the slightest sign of discoloration.

The staff of experienced demonstrators in the Donald Macpherson laboratories, who form the "Foochow" Service Department, are always ready to give advice and instruction in the handling of spray-gun apparatus and stoves. Those who have not yet experimented extensively with these new finishes can call upon the assistance of these skilled technicians in the matter of the best equipment, cooker cleaning methods, and stoves to install, with proper reference to local conditions. After the plant has been installed a member of the firm's technical staff is available, if desired, for the instruction of operatives.

The New "Foochow" Oriental Lacquer Laboratory.

"Foochow" Oriental Lacquer comprises materials suitable for the finishing of all kinds of gas appliances, and it is claimed that this process gives the most rapid of any high-class finish, processing time having in some instances been reduced by as much as 75%. As a demonstration, Messrs. Donald Macpherson & Co., Ltd., are prepared to finish a cooker in their own Development Department; the customer being invited to be present to view the process and check costs. Also, samples of the materials are supplied for tests in the users' own shops. The address is Messrs. Donald Macpherson & Co., Ltd., Mitcham, London, or Knott Mill, Manchester.

A Decorative Outdoor Lamp.

A new high-pressure decorative outdoor lamp has been placed on the market by Messrs. James Keith & Blackman Company, Ltd. This lamp is intended as a reply to the attractive lamps offered by the electrical undertakings, and it has a chromium-plated copper casing, and dome; black enamelled steel cowl, and upper portion of the reflector; and all internal parts are corrosion resisting. In this lamp, it is claimed, the Gas Industry has a unit which combines both beauty and efficiency, and, in this era of attractive shop lighting, there should be a large market for it.

Our photograph shows a cluster lamp, with three mantles, but the lamp is also supplied with a single mantle, providing the same total candle-power.

Gas-Works' Equipment.

Three brochures describing the V.S.K. oxide breakers, Holmes-Connersville Products and B.M. Meters were issued recently by Messrs. W. C. Holmes & Co., Ltd., Engineers, of Huddersfield. The V.S.K. oxide breaker, it is claimed, will handle oxide successfully in a moist or dry condition, is successful in the extraction of foreign matter, and thoroughly mixes new and old oxide. The oxide to be handled is shovelled on to a perforated loading tray which is caused to oscillate together with a hopper placed underneath, to secure regular feeding. The oxide passes from the hopper to a rotating drum on the periphery of which are a series of hardened steel blades, which only receive a small quantity of material at one time, and they deliver this against a friction plate. This plate arrests the large particles which the following knives again grind against the friction plate before the final discharge. The strong air current caused by the rotating knives thoroughly aerates the oxide and delivers in a light and finely divided condition.

The B.M. gas meter consists of a mild-steel drum, divided into compartments, which are successively unsealed by a rolling action thus displacing a definite volume of gas per revolution. The volume of gas displaced is shown on a straight reading counter and the meter is also equipped with a differential pressure gauge, level gauge, inlet connections, overflow, and drain.

The Holmes-Connersville products include exhausters, boosters, and meters. The exhausters and boosters require a minimum of attention due to the fact that no internal parts are in contact and the main bearings are three times the shaft diameter in length and are ring oil lubricated. The accuracy of the Holmes-Connersville meter is maintained since there is a small clearance allowed between the impellers and the casing, and, as the measuring chamber is bounded by the casing and the contour of the impeller, it cannot increase in volume due to wear.

Coke as a Fuel for Public Baths*

By W. L. Boon, Manager of the London and Counties Coke Association.

Most engineers are confronted with fuel problems in a varying degree, and the study of economy, combustion, and plant efficiency have in particular, and deservedly, received a great deal of attention in recent years. There is no section of municipal or public service where the study of fuel economy is more pronounced than in the baths departments. This is not so much a compliment as a fact, evidenced by the records of the Technical Department of the London and Counties Coke Association, which prove that for the South of England, which is the area of the Association's activities, more boiler surveys were made by them in connection with fuel economy for public baths than in any other direction of the public service. In most of these cases, too, the initiative was to the credit of the baths departments, and not to the Technical Staff of the Association.

An example may be cited of one London area alone, where there are twenty-five local authorities who operate public baths, twelve of which are using coke on their boiler plants, after proving, by careful investigation and exhaustive tests, that this was the most economical fuel for their particular requirements.

With regard to the costs of operating a boiler plant with coke as opposed to coal, this is a matter which is dependent upon a number of factors, chief of which is, naturally, price; although it has been proved time and again that coke, often at a higher price, can show a saving, on account of the various characteristics referred to in this paper, as against coal at a lower price. So that to judge the fuels on calorific value and price basis solely is misleading, unless all the conditions are taken into account.

Of all the tests which have been made by the London and Counties Coke Association, where coal and coke have been the alternative fuels, in 85% of these cases coke has been shown to be the most economical fuel, and has been adopted by clients.

Taking three tests which were made last month, all on Lancashire boiler installations, the efficiency with coke was increased on one plant by 12%, on the second by 9%, and on the third by 6%, and coke is now being used in all these three installations. The annual monetary savings being £960 in the first, £340 in the second, and £200 in the third case.

There are certain considerations, however, which have to be given to the use of coke before it can be adopted for any plant. In the first place there are limitations to the amount of fuel which can be consumed per sq. ft. of grate area. The draught conditions have, of course, considerable bearing on this factor, and where draught is limited, the output of the boiler plant will probably be somewhat reduced as opposed to the output with, say, Welsh steam coal. Where natural draught is available of 2/10 in., the grate loading with coke can be taken to 17 lbs. per sq. ft. for efficient duty, and where induced or forced draught systems are available, the consumption may be increased to 28 or even 30 lbs. per sq. ft.

Further, coke is, naturally, not so reactive as Welsh coal, and rapid fluctuations of load have to be catered for in a different way. The response with coke to sudden calls for additional steam is, consequently, slower and this time lag has to be catered for. This can be done by cleaning fires at periods when load conditions are not excessive, and carrying an extra heavy and clean fuel bed in preparation for the peak demands.

I appreciate that it is not always possible to know when the demands for additional steam will be made, and in cases where the boiler is loaded to its limit of output it would be wise to consider the advantage of either forced or induced draught, so that the loading per sq. ft. of grate area could be increased.

It is not good policy or good economics to run a boiler continuously at a high rating. Neither, of course, is it good practice to run the boiler very much under load.

From various tests with coke which had been taken recently, the efficiency for different grate loadings were nearly as follows:

	%
¼ load	40
½ ,,	60
¾ ,,	75
Full ,,	81
1¼ ,,	73

With a coke having very normal characteristics, and produced from Durham and Yorkshire gas coal, the analysis was:

	%
Ash	6·0
Volatile matter	1·0
Sulphur	1·0
Phosphorus	0·03
Moisture	5·0
Carbon	86·97
	100·0

Calorific value, 13,500 B.Th.U. dry basis.
,, ,, ,, 12,825 ,, as fired.
Fusion temperature of ash, 1·200° C.

I should like to add, in conclusion, that the technical department of the London and Counties Coke Association acts as much in a protective sense to the client as it does in furthering the use of coke. In other words, we are out to assist clients and to help them in every way we can to get the very best results out of coke. We will survey and carry out tests with our own equipment, and without cost to the client. In a word, we are out to give service unstintedly to those who request it.

We are not displacing coal, in the sense that oil would do, because for every ton of coke sold 2 tons of coal are put through the retorts. Our national asset is, of course, coal, and in no system is it used to such good purpose as through the Gas Undertakings, where the efficiency of coal to product is 84%.

* From a paper before the Tenth Annual Conference of the National Association of Baths Superintendents, May, 1934.

CONTINENTAL NOTES

ESTIMATION OF NAPHTHALENE IN GAS.

H. Seebaum and W. Oppelt give, in *Das Gas- und Wasserfach*, 1934, 77, 280-282 (May 5), an account of their work on the determination of naphthalene in gas by the picric acid method.

They find that temperature is of importance in addition to picric acid concentration. If the temperature exceeds 10° C., naphthalene is not removed completely. A new solubility curve for picric acid is given.

The method finally recommended is as follows: The train consists of a sintered-glass wash bottle containing dilute sulphuric acid, and two Drechsel bottles each containing 0·9% picric acid solution. The Drechsel bottles stand in an insulated sheet-lead box covered with a two-piece wooden lid provided with a hole for a thermometer. At the bottom of the box is a run-off tap. During the test, the temperature is maintained between the essential limits of 4° and 7° C. by addition of ice-cold water. The gas is passed through the train at a rate of nearly 2 c.ft. per hour until sufficient naphthalene picrate has formed. If the gas contains more than 4 grains of naphthalene per 100 c.ft., only the second Drechsel bottle is cooled, otherwise naphthalene may be deposited in the inlet tube of the first bottle. After passage of the requisite amount of gas, the naphthalene picrate is filtered through a sintered-glass crucible (3 < 7), and the bottles are washed out with some of the filtrate. The picrate is decomposed and the titration is carried out in the usual manner, a correction of 0·3 c.c. of $\frac{N}{10}$ alkali being made for the picric acid solution entrapped in the crucible.

The Sheffield Gas Company's Bill

House of Commons Committee

(*Before Sir* HENRY JACKSON (*Chairman*), *Dr.* JOHN WILLIAMS, *Mr.* GEORGE HARVEY, *and Mr.* PEARSON.)

(*Continued from p.* 163.)

The House of Commons Committee proceedings on this Bill, which were commenced on Wednesday, July 11 (see "JOURNAL" for July 18, p. 162) were continued last week. The main purpose of the Bill is to prohibit the supply of coke oven gas within the Sheffield Gas Company's limits of supply by anyone other than the Company except with its consent, such consent not to be unreasonably withheld. There is opposition by the United Steel Companies, Ltd., and Messrs. Samuel Fox & Co., Ltd., the South Yorkshire Gas Grid Company, the National Association of Coke and By-Product Plant Owners, and the Mining Association of Great Britain.

On Monday, July 16, Lieut.-Col. H. K. Stephenson (Chairman of the Gas Company) gave evidence for the Bill, and first impressed upon the Committee the efforts which the Company had made to develop the industrial use of gas, by the aid of its research department, which, among its various duties, advised industrial users concerning the use of gas. He pointed out also that all this work involved expense. Before being entrusted with the construction of the grid in South Yorkshire the Company had been dealing with coke oven gas. It was its policy to inaugurate a grid, but it had not a complete conception of the idea until the Departmental Committee on Area Gas Supply had reported; so that when the Company was entrusted with the construction of the grid it had only to extend or co-ordinate the policy it had already inaugurated. It had the necessary technical knowledge and a complete organization, together with an area of supply which was likely to be able to absorb the surplus coke-oven gas.

The South Yorkshire Gas Grid Company was regarded by the Gas Company as a negotiating body, and the Gas Company had looked to the coke oven owners behind the Grid Company rather than to the Grid Company itself. He had had no idea that coke oven gas would be supplied by others within the Gas Company's limits until he had learned that such a pipe had been laid to the Tinsley Wire Works direct from the coke ovens. The Gas Company had created the market and should derive the benefit; it regarded any main opposing the grid as something which robbed it of the fruits of its enterprise, capital, and skill. About £71,000 had been spent on the grid, and a further expenditure of £143,000 was contemplated.

Mr. F. G. Thomas, K.C. (for the Mining Association of Great Britain), cross-examining, pointed to the distinct revival in the iron and steel industry during the past year and to the consequent possibility of further coke ovens being put into operation in the district. He was concerned, in view of the powers now sought by the Gas Company, as to how colliery proprietors who operated such coke ovens would be able to dispose of their surplus gas.

Col. Stephenson's reply to this was to suggest that owners of new coke-oven plants in the district would make judicious inquiries as to the disposal of their surplus gas.

He agreed with Counsel that it was because of the special expenditure and responsibility of the Gas Company in respect of the grid that the Company asked to be placed in an exceptional position in relation to other gas undertakings in the country.

In reply to Mr. Jacques Abady (Counsel for the National Association of Coke-Oven and By-Product Plant Owners), who pointed out that it would be legal, and physically possible, for the Company to discontinue taking gas from the coke ovens and to restart making gas itself, he said it would not be a practical proposition.

Replying to a question by Mr. Maurice Fitzgerald (for the South Yorkshire Gas Grid Company) as to why there was not inserted, in the agreement of 1931, a proviso forbidding the sale of gas by coke oven owners to anyone but the Gas Company, he said the possibility of competition by the coke-oven owners in the Gas Company's area was not dreamed of, and that the Gas Company was dealing with them as partners and friends.

Mr. Ralph Halkett (the Gas Company's Engineer and Manager) was the next witness. At the beginning of his evidence he referred to visits he had made to the Ruhr in 1928 and 1929 to see how the gas grid there was working; and he added that in 1932 there was a loss of £600,000 on that grid, due to providing too many mains before securing a sufficient number of consumers. The Sheffield Gas Company, he said, was building up the demand, and so far its grid had been a great success.

Mr. Halkett occupied the whole of the following day (Tuesday, July 17) in the witness chair, and dealt with the Company's policy, the events concerned with the supply to the Tinsley Works, and so on.

As showing the potential increased demand for coke oven gas, Mr. Halkett mentioned the improvement of trade in Sheffield during the last nine months, and said that the Gas Company had made more gas in 1933 than it had in 1932, because there was not yet sufficient coke oven gas available in the grid. The Company would have to make a lot of gas in the coming winter, but it would continue to require a great deal of coke oven gas.

It was suggested by Mr. R. M. Montgomery, K.C. (for the United Steel Companies), in cross-examination, that by providing mains and obtaining supplies of coke oven gas, instead of carbonizing coal at its own works, the Company was saving very heavy maintenance costs. Mr. Halkett did not agree.

A point which Mr. Thomas (for the Mining Association) sought to make was that, because there was a dispute with one member of the Grid Company, the Gas Company now sought to alter the common law rights of the other members of the Grid Company and of other coke oven plant owners. If a colliery company wished to obtain a supply of coke oven gas from its coke ovens adjacent to the colliery, and if the Gas Company did not consent to such a supply being obtained, it might have to face a Board of Trade arbitration. Mr. Halkett pointed out that the rights of coke oven owners would be affected only in relation to the Gas Company's area of supply. If the Gas Company had known that it was not to have available to it all the surplus gas from the constituent members of the Grid Company, it would never have started the grid.

When it was suggested by Mr. Jacques Abady (for the National Association of Coke Oven and Bye-Product Plant Owners) that the quantity of gas being taken by the grid was a mere fleabite as compared with the quantities the Area Gas Committee had envisaged, Mr. Halkett said that the first stages of the development of such an undertaking were the more difficult, but he was satisfied that the grid was going well and that everything possible was being done to develop it.

Mr. A. M. White, F.C.A. (a partner in Messrs. Cash, Stone, & Co., Chartered Accountants), who was the final witness for the Gas Company, gave brief evidence on Wednesday morning, July 18, concerning maintenance of retorts and settings, and also with regard to the negotiations preceding the agreement made with the Grid Company in 1931; he was advising the Gas Company at that time. He corroborated the previous evidence that at that time the Gas Company had contemplated that all the surplus coke oven gas would go into Sheffield. No suggestion was made then that it would be open to a constituent member of the Grid Company to refuse to sell its surplus gas through that Grid Company, and to sell it in competition with the Gas Company; indeed, the whole atmosphere was the other way round. The endeavour was to work out the recommendations of the Area Gas Committee, and to assist the coke oven owners to dispose of their gas.

The Opposition Case.

Sir WILLIAM JOWITT, K.C., addressing the Committee on behalf of the United Steel Companies, Ltd., and Messrs. Samuel Fox & Co., Ltd., said that perhaps there was a risk in this case of being unable to see the wood for the trees; the issue was a simple one, although the Committee had heard a great deal which did not bear directly upon it.

The over-riding question to which the Committee must have regard was that of public welfare; public welfare demanded perhaps more than anything that obligations, once entered into, should be observed. If the Gas Company and the Grid Company, having promoted Bills in 1931, had come to a Parliamentary bargain whereby one had withdrawn and had let the other go ahead, and in return had obtained certain concessions and promises, it would be very unfortunate that, within three years, the one who had secured the advantage should be able to say that, having got his one-time competitor out of the hunt, there were clauses in the agreement which he did not like.

Here was an agreement which, he submitted, continued the right which the coke oven owners had always had, as a matter of common law, to sell their gas to whom they liked. What was the use of the Gas Company bringing a lot of evidence now to show—what might well be the fact—that it had not visualized or contemplated sales inside its territory? That was the fault of the Gas Company, or its misfortune; the agreement plainly gave the coke oven owners the right to sell their gas.

It had been asked if it were fair that the constituent members of the Grid Company should not honour the bargain made by the Grid Company. The Grid Company had sent round an agreement to its constituent members, and the United Steel Companies had not signed it because they did not think they would have any free gas. Nevertheless, Sir William was prepared to regard the United Steel Companies as bound by the agreement between the Gas Company and the Grid Company, for the purpose of his argument.

It was contended that if a Company owned two works, one of which produced gas and the other had a use for it, and if there were a field between those works, that Company could not use its own gas. But if there were no field between them, then it was in the public interest that the Company should use its gas! Where there was no power to break up streets, was

it likely that such supplies direct from coke oven plant to consumers were likely to assume very great proportions?

It was not being suggested that the Sheffield Gas Company had not been able to get all the gas it wanted.

Mr. TYLDESLEY JONES (for the Gas Company) said the evidence was that last year the Gas Company had to manufacture gas because it could not get enough coke oven gas.

Sir WILLIAM JOWITT said he had thought that the Company had not yet demanded any option which had not been satisfied and made into a contract.

Mr. JONES replied that that was another point; an option was one thing, but getting the gas was another.

Sir WILLIAM JOWITT said the Company had not reached the stage of having called for an option which had not been satisfied by turning it into a contract. In those circumstances it had been contended that there was a case for imposing upon these particular producers of coke oven gas a restriction of their common law rights, which restriction did not extend to other coke oven gas producers outside. There was no such overwhelming case, however, as to entitle the Committee, in the public interest, to ride round the bargain that had been made.

It was perfectly plain to anybody who read the Area Gas Committee's report intelligently that the coke oven people, who were pointing out the potential industrial uses for their gas, were contemplating that it might even be desirable for them to secure power to break up roads. Therefore, the possibility of coke oven owners supplying gas in circumstances which did not involve the breaking up of roads must have been in the minds of anybody who had an elementary knowledge of this problem and who troubled to scan the report. In the Bill promoted by the Grid Company in 1931, and subsequently withdrawn by agreement with the Gas Company, the coke oven owners were proposing to obtain the power to break up streets and to acquire wayleaves compulsorily. They had made the concession that they would not supply inside the Gas Company's area except with the consent of the Gas Company.

In the agreement between the Gas Company and the Grid Company, which was scheduled to the Gas Company's Act of 1931, it was stated that nothing should preclude or restrict the sellers from selling or otherwise disposing of their gas, to any authority, company, body, or person. It would be observed that the agreement did not give the Grid Company what it had hoped to get under its own Bill—*i.e.*, the power to break up streets; it had put itself out of the hunt so far as that was concerned.

Unless the Gas Company could satisfy the Committee that there had been a mutual mistake when the agreement was made or that there was some kind of over-reaching which had led the Gas Company into a mistake, it would be intolerable that the agreement be interfered with, three years after it was made, because of the mere prospect of future (not present) difficulty.

Mr. *W. Benton Jones* (Chairman of the United Steel Companies, Ltd.), giving evidence, said that the United Steel Companies had made it clear, from the first discussions with other coke oven owners, that they reserved the right to supply their gas to their own collieries or works, or their associates. Indeed, they could not have done otherwise; they made large quantities of coke oven gas which they could use economically in their steelworks, situated comparatively close to the coke ovens, and they would not be acting in the interests of their shareholders if they supplied it to other users so long as they could use it more economically themselves.

Case for the United Steel Companies.

Mr. Benton Jones gave evidence on similar lines to that which he gave when the Bill was before the House of Lords, and which was reported in the "JOURNAL" at the time. His point was that any company with coke oven gas available should be allowed to sell it to any allied company, and the word "allied" in the agreement he contended was used in the sense of proprietorship. He was again emphatic that it would be unfair to deprive his Company of the right to sell its coke oven gas to its subsidiary companies and to compel it to sell all its surplus gas, outside that used on its own particular works, to the Sheffield Gas Company.

In his cross examination by Mr. Tyldesley Jones, for the Sheffield Gas Company, Mr. Benton Jones admitted that at no time during the negotiations which led up to the agreement of May, 1931, or at any subsequent time until September, 1933, had he intimated to the Sheffield Gas Company that he considered himself free to lay mains and supply gas to his subsidiary companies within the limits of supply of the Sheffield Gas Company. He claimed, however, that there was no need to do so, because that freedom, in his view, was recognized in Clause 7 of the agreement.

During the proceedings on July 19, Sir William Jowitt, K.C., leading Counsel for the United Steel Companies, said he would produce agreements which had been made between the South Yorkshire Gas Grid Company and its constituent coke oven owning members, of which there were 19. Eight of these companies had signed the agreement out-and-out for the supply of their gas to the Sheffield Gas Company through the Grid Company, and others had stipulated that the agreement should not come into force until they gave the word.

Mr. Evan Williams, President of the Mining Association of Great Britain, said he had no desire to enter into the controversy between the Sheffield Gas Company and the United Steel Companies, but added that when the Mining Association found there was a proposal in the Bill materially to alter the freedom of collieries to deal with their property in the ordinary way, it was felt that the principle of the measure should be strenuously opposed. If passed in its present form the Bill would be an inducement for other gas undertakings to ask for the same thing, and coalowners all over the country viewed with alarm any admission by Parliament that limitations should be placed on any of the bye-products of coal in regard to the sale and disposal of them in any way. Predicting that coke oven gas will be used to an increasing extent in industry in the future, Mr. Williams expressed the view that the tendency will be for industries to set up works in the neighbourhood of collieries and coke ovens, and it would be impossible for the low-temperature carbonization of coal to proceed satisfactorily unless there was liberty in the sale of gas. If it were to be laid down that no supply of gas could be given except through a gas undertaking, it would check development to an extent which, in his view, would be disastrous.

Mr. Jacques Abady, in his address to the Committee on behalf of the National Association of Coke and By-Product Owners, said he also stood aloof from the local controversy between the two companies in this particular case, and added that although the Bill might provide a remedy for that quarrel it would adversely affect coke oven companies in other parts and also such companies yet to be formed. The suggestion that the Sheffield Gas Company was fulfilling a national purpose was a piece of monstrous humbug. All that had happened was that they were obtaining supplies of coke oven gas in order to relieve themselves from the business of manufacturing coal gas.

Council for other opponents also addressed the Committee in terms similar to those used when the Bill was in the other House, and Mr. Tyldesley Jones, for the promoters, brought the proceedings to a close with the final speech on behalf of the promoters.

The Committee's Decision.

The Committee gave its decision on Friday, July 20, and in doing so the Chairman said the preamble of the Bill was proved subject to certain amendments, the substance of which was that there should be excluded from the scope of the Bill the supply of coke oven gas by a principal company to a subsidiary company, or *vice versa*, and for this purpose the definition of a subsidiary company was to be taken from the Electricity Supply Act of 1919. This reads as follows: "A company under the control of some other company or companies, whether by reason of the majority of the voting power being vested in the other company or companies, or their nominees, or shareholders, or otherwise, and such other company or companies are, in relation to the subsidiary company referred to as the principal company."

Corporation Undertakings' Results

Accrington.

The annual report of Accrington District Gas and Water Board shows a revenue expenditure of £52,027 and an income of £89,000, leaving a gross profit of £36,973. The expenditure has been decreased by £1,006, and income by £3,414, gas sales being £4,185 less. Rents increased by £14, and profit on private work and showroom sales by £782. The reduced revenue was accounted for by reduced charges £3,277, and reduced output £908. The amount required to meet standing charges was £27,067, and income-tax £7,291, a total of £34,359, leaving a net surplus of £2,614. The balance in the net revenue account is £22,003. The revenue from gas was £87,186. The average price received for gas per 1,000 c.ft. sold was 3s. 5·865d., against 3s. 6·410d. for the previous year. The gas sent out was 567,584,000 c.ft.—a decrease of 893,000 c.ft.—while gas accounted for totalled 512,049,000 c.ft.—a decrease of 5,133,000 c.ft. The proportion sold for different purposes was: Industrial consumers, 11·94%; public lighting, 3·66%; prepayment consumers, 53·43%; other consumers, 30·97%. Sales of cooking, heating, and hot water appliances constituted a record. To date, 700 domestic appliances had been installed. Following expert advice it was considered desirable to scrap No. 1 gasholder at Accrington station, constructed over 70 years ago. The holder is being replaced in the existing tank by a spiral-guided type holder of three lifts. The cost of replacement is being met out of revenue.

Bradford.

The annual report for the year ended March 31, 1934, shows that, after providing for the usual net revenue charges, there is a net profit on the year's working of £22,182. In comparison with the figures for the preceding year, the gross income is increased by £2,701, and the gross expenditure by £6,559, while the net revenue charges are less by £7,445. The net profit of £22,182 compares with £18,595 earned during the preceding year. The credit balance in this account has now

increased to £127,788 The total sales of gas for the year have been over 1,840 million c.ft. The total quantity of gas made was 1,987,352,000 c.ft., as compared with 2,010,821,000 c.ft. during the preceding year; being a decrease of 23,469,000 c.ft., or 1·16%. The coal gas made was 1,820,568,000 c.ft., equal to 15,295 c.ft. per ton of coal carbonized, as compared with 14,931 c.ft. per ton last year. Additionally the undertaking produced 166,784,000 c.ft. of carburetted water gas, as compared with 143,398,000 for the year 1932-33. The unaccounted-for gas was 7·39%. The totai receipts from residuals was £68,781, or £35 less than last year, a reduction equal to 0·004d. per thousand c.ft. sold. The receipts for coke (including breeze) after deducting labour and carting costs were £46,705; the average price realized per ton being 16s. 3·55d. The receipts for tar show a decrease of £1,285 on the previous year, being £16,435 compared with £17,720. The revenue from ammoniacal liquor amounted to £48. The receipts for spent oxide show a decrease of £54, due to reduced production, and the gross profit on the chemicai works is £1,130 as compared with £858 last year.

Burnley.

The net profit for the year ended March 31, 1934, amounted to £15,897 after due payment of capital charges. The total expenditure was £138,600, which is less than last year's figures by £5,467. The make of gas during the year has been 460,917,716 c.ft. of coal gas, and 48,709,000 c.ft. of carburetted water gas. The purchases of coke oven gas amounted to 541,510,793 c.ft., making a total figure of 1,051,137,509 c.ft., compared with 1,047,587,786 c.ft. during the previous year. The gas sent out has been 1,051,416,509 c.ft., or 5,257,082 therms, against 1,046,980,786 c.ft., or 5,234,904 therms during the previous year, an increase of 0·42%. The report also shows an increased yield of gas per ton of coal, the actual thermal yield being 76·73 therms of straight coal gas per ton compared with 75·06 therms in the preceding year. The average yield per ton from the existing horizontals at Oswald Street since starting up in 1927 has been well over 75 therms. In addition, the Undertaking produced 4·6% of carburetted water gas. The net receipts for residuals, after deduction of expenses in the working up of the bye-products, are £15,719 compared with £18,006 the previous year. This results in a return of 10s. 6·37d. per ton of coal carbonized, against 11s. 4·34d. per ton last year, and 11s. 8·72d. the previous year.

Gas Chambers and Coke Ovens, Ltd.

The report of the Directors for the year ended March 31, 1934, shows a net profit of £3,741, which is subject to income-tax. The Directors recommend the payment of a dividend at the rate of 5% (less income-tax at 4s. 6d. in the £) on the preferred ordinary share, and provision of £250 as a reserve for income-tax. This leaves a credit balance of £2,633, which is to be carried forward.

Falk, Stadelmann, & Co., Ltd.

The profit for the year ended March 31, 1934, including income from and profit on realization of investments and transfer fees, and after making provision for administration charges, depreciations, and amortization of leasehold properties, amounted to £96,501, to which has to be added the sum of £16,488, being the balance brought forward from last year, making a total of £112,990.

After deducting £8,009 for income-tax, and £31,500 for the dividend on the preference shares for the year ended March 31, there remains a balance of £73,481, which the Directors propose should be dealt with as follows: To pay a dividend at the rate of 7½% on the ordinary shares (less income-tax); to transfer to general reserve the sum of £10,000; to transfer to staff pension and benevolent fund the sum of £5,000; and to carry forward the sum of £15,168.

New Capital Issues.

East Surrey Gas Company.—The Directors are offering for sale by tender £25,000 of 4½% redeemable preference stock at a minimum price of issue of £112 per £100 of stock, redeemable at par on July 1, 1978. Tenders must reach the Company not later than 11 a.m. on Monday, July 30.

Overseas Opportunities.

South Africa.

Gas Lamps and Poles.—H.M. Trade Commissioner at Johannesburg reports that the Johannesburg City Council is calling for tenders, to be presented in Johannesburg by Aug. 25, 1934, for the supply of 25 gas lamps of 12-light suspension type, together with poles and all accessories. Firms desirous of offering equipment of United Kingdom manufacture can obtain further details of this call for tenders upon application to the Department of Overseas Trade, 35, Old Queen Street, London, S.W. 1. Reference number G.Y. 14054 should be quoted.

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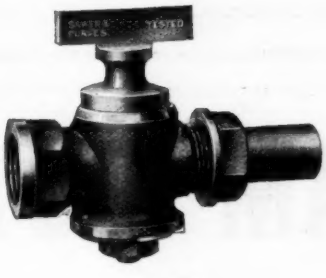

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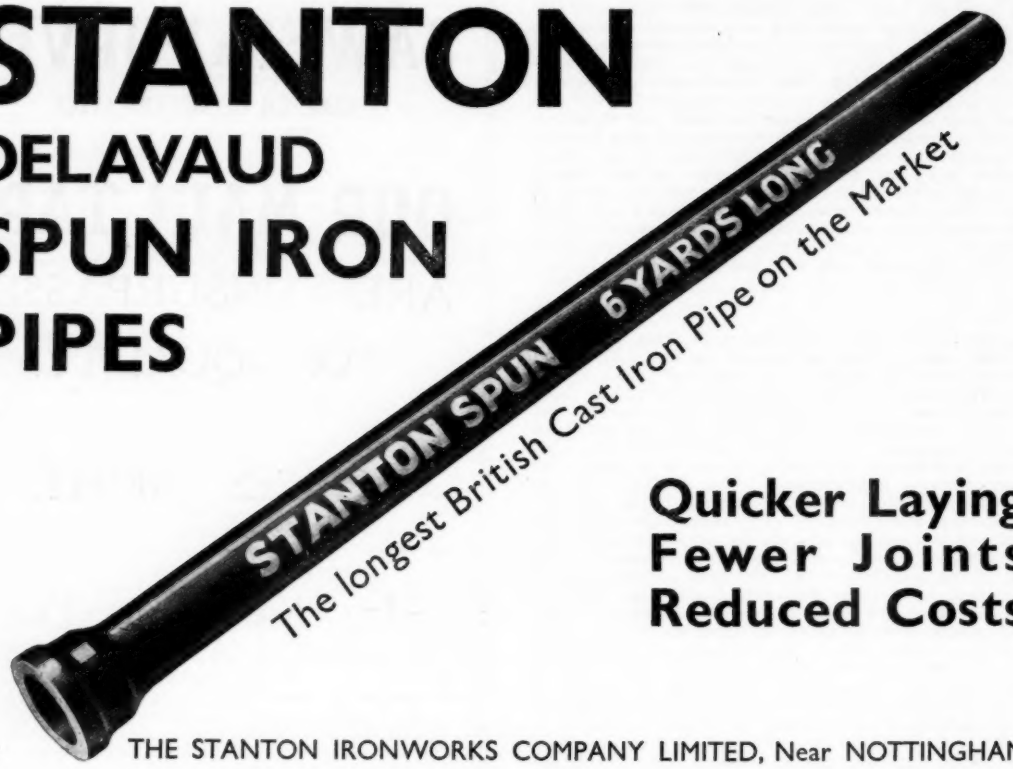

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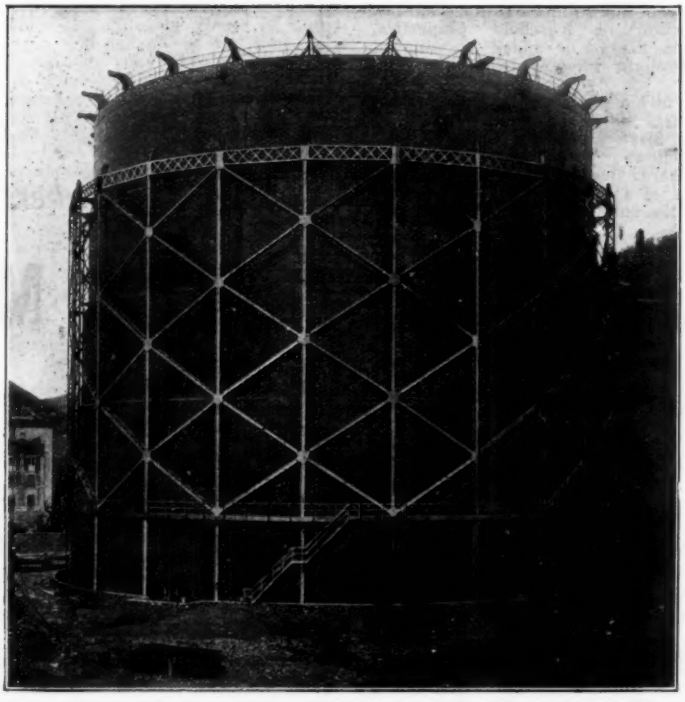

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Gas Markets and Manufactures

Stock Market Report.

[For Stock and Share List, see later page.]

Business on the Stock Exchange last week was again above the normal for the time of year, though there were no outstanding features. British Funds continued firm, and several further fractional increases in value were recorded, while in the Industrial market any available shares of the leading concerns were quickly absorbed. A new long three-week Account has now commenced, and this will probably lead to a slowing up, but when this is out of the way a return to more active conditions is anticipated.

Gas stocks and shares were active, and a number of quotations advanced in value. Among these South Suburban 5% preference headed the list with a gain of 4 points to 122½ *ex* div., Gas Light units strengthened 1½d. to 27s. 3d., while Imperial Continental, Shrewsbury consolidated, Wandsworth 5% preference, and Primitiva consolidated debenture all gained 2 points.

In this Report during the past few weeks tables have been given showing how the continued popularity of gas stocks has had its effect on values during the past year. Ordinary and debenture stocks have so far been dealt with, and attention is now given to preference issues. It will be seen in the following list that the increases are approximately 5 points. Several of the current prices invite purchases, particularly of Mid-Southern 4%, Newcastle 4%, and Uxbridge 5%, but owing to the tenacity with which these stocks and many others are held they will doubtless be difficult to obtain.

—	Middle Market Quotation.		Increase Over 1933.
	1933. July 20.	1934. July 21.	
Bournemouth 6%	139½	144½	5
Brighton 6%	135½	142½	7
Gas Light 4%	100½	106½	6
Mid-Southern 4%	95½	98½	3
Newcastle 4%	100½	100½	..
South Metropolitan 6%	137½	144½	7
,, ,, 4%	101	105	4
South Suburban 5%	115½	122½	7
Tottenham 5½%	125½	128½	3
Uxbridge 5%	112½	114½	2
Wandsworth 5%	114½	123½	9

The Directors of the Commercial Gas Company have declared the usual interim dividend on the ordinary stock of 2½%, payable on Aug. 15.

Current Sales of Gas Products.

The London Market for Tar Products.

LONDON, *July* 23.

The tar products market continues steady with current prices at the following levels:

Pitch is nominally about 58s. per ton f.o.b., but very little business is being done, so that it is difficult to fix an exact figure.

Creosote, 4d. to 4¼d. per gallon.

Refined tar, 4d. to 4¼d. per gallon in bulk at makers' works.

Pure toluole, 2s. 4d. to 2s. 5d.; pure benzole, 1s. 9d. to 1s. 10d.; 95/160 solvent naphtha, 1s. 7d. to 1s. 8d.; and 90/160 pyridine, 7s. to 7s. 6d., all per gallon naked at makers' works.

Tar Products in the Provinces.

July 23.

The average prices of gas-works products during the week were: Gas-works tar, 25s. to 30s.; Pitch—East Coast, 55s. to 57s. 6d. f.o.b. West Coast—Manchester, Liverpool, Clyde, 55s. to 57s. 6d.* Toluole, naked, North, 1s. 9d. to 1s. 11d. Coal-tar crude naphtha, in bulk, North, 6½d. to 6¾d. Solvent naphtha, naked, North, 1s. 5d. to 1s. 6d. Heavy naphtha, North, 10d. to 11d. Creosote, *ex* works, in bulk, North, liquid and salty, 3¼d. to 3½d.; low gravity, 3¼d. to 3½d.; Scotland, 3¼d. to 3⅜d. Heavy oils, in bulk, North, 3⅜d. to 4¼d. Carbolic acid, 60's, 1s. 11d. to 2s. 1d. Naphthalene, £10 to £11. Salts, 55s. to 75s., bags included. Anthracene, "A" quality, 2½d. to 3d. per minimum 40%, purely nominal; "B" quality, unsalable.

* All prices for pitch are now quoted on the basis of f.o.b. In order to arrive at the f.a.s. value at any port it will be necessary to deduct the loading costs and the tolls whatever they may be.

Tar Products in Scotland.

GLASGOW, *July* 21.

Little or no change has taken place in values here during the holidays. Inquiries are more numerous, however, particularly for export.

Crude gas-works tar.—The actual value is 34s. to 36s. per ton *ex* works in bulk.

Pitch.—Round 45s. per ton f.o.b. Glasgow is being quoted for shipment during the coming season. For home trade 42s. 6d. to 45s. per ton *ex* works in bulk is to-day's value.

Refined tar.—This remains in plentiful supply at 3d. to 3¼d. per gallon f.o.r. at makers' works naked.

Creosote oil.—Deliveries *ex* contract are well maintained. B.E.S.A. Specification oil is 4d. to 4½d. per gallon; low gravity, 4¼d. to 4⅜d. per gallon; and neutral oil, 4¼d. to 4½d. per gallon; all f.o.r. at makers' works in bulk.

Cresylic acid.—Makers' ideas are firm for any supplies available for prompt delivery. Pale, 97/99%, 1s. 2½d. to 1s. 3½d. per gallon; dark, 97/99%, 1s. to 1s. 1d. per gallon; pale, 99/100%, 1s. 4d. to 1s. 5d. per gallon; all f.o.r.

Crude naphtha.—Value is maintained at 4¾d. to 5¼d. per gallon, according to quality.

Solvent naphtha.—90/160 grade is 1s. 3d. to 1s. 4d. per gallon, and 90/190 grade 8d. per gallon.

Motor benzole.—Value is nominal at 1s. 5d. to 1s. 6d. per gallon.

Pyridines.—90/160 grade is 6s. to 7s. per gallon, and 90/140 grade is 7s. to 8s. per gallon (nominal).

Benzole Prices.

These are considered to be the market prices for benzole at the present time:

	s.	d.			d.	
Crude benzole	0	9	to	0	9½	per gallon at works
Motor ,,	1	3½	,,	1	4	,, ,, ,,
90% ,,	1	4	,,	1	4½	,, ,, ,,
Pure ,,	1	7½	,,	1	8	,, ,, ,,

Contracts Advertised To-Day.

General Stores.

Bradford Gas Committee. [p. 221.]
Salford Gas Department. [p. 221.]

Meters.

Salford Gas Department. [p. 221.]

Oils, Paints, and Greases.

Bradford Gas Committee. [p. 221.]
Salford Gas Department. [p. 221.]

Pipes and Specials.

Bradford Gas Committee. [p. 221.]
Salford Gas Department. [p. 221.]

Trade Notes.

Lecocq Coke Ovens.

We have received from Lecocq Coke Ovens, Brussels, a copy of a brochure, setting forth the advantages of their hairpin flues, partitioned regenerators, and patent automatic reversing valve.

Davidson & Co., Ltd.

A new publication, entitled "Sirocco Contracts," which is the first of a series issued by Messrs. Davidson & Co., Ltd., Engineers and Ironfounders, Sirocco Engineering Works, Belfast, gives details of their dust extracting and ventilating installations at the new Higginshaw Gas-Works, Oldham.

Newton, Chambers, & Co., Ltd.

Messrs. Newton, Chambers, & Co., Ltd., have just published their new sectional catalogue, which gives many examples of the plant which they have already erected in gas-works, for such processes as purification, benzole extraction for the production of high-grade motor spirit, concentration of gas liquor, and naphthalene recovery.

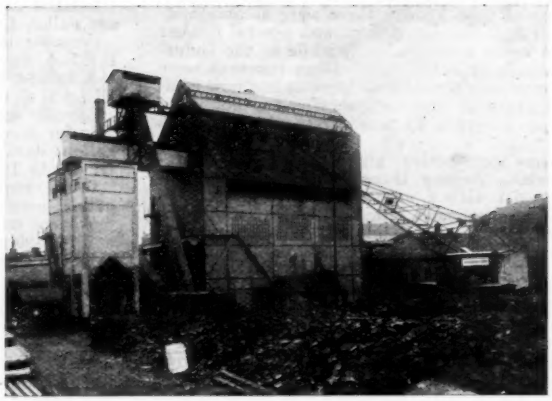
Power for Gas-Works.

Among recent contracts, Messrs. J. Browett-Lindley, Coborn Works, Letchworth, now have in hand a 180 b.h.p. compound condensing steam engine direct coupled to a 120 kw. D.C. generator for supplying power at the works of the Watford and St. Albans Gas Company. Surface condensing plant, with motor-driven pumps, is included.

The B.A. Holland Engineering Company, Ltd.

The B.A. Holland Engineering Company, Ltd., have recently published a pamphlet which deals with their high-pressure gas storage and distribution plants for use both at the gas-works and in outlying districts of pressure shortage. This pamphlet also deals with their Holland/SLM rotary gas compressors and Holland/SLM gas boosters, and exhausters.

CO LTD



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GLOVER - WEST

CONTINUOUS VERTICAL RETORTS

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WEST VERTICAL

SEMI-INTERMITTENT CHAMBERS

•

WEST

FUEL-HANDLING & GRADING PLANT

Copies of our publications, "Results in Glover-West Vertical Retorts," "Features of the Glover-West System," "Steaming in Vertical Retorts," and "The West Lip-bucket Conveyor" will gladly be sent on request.

Designed, Manufactured, and Erected by

WEST'S GAS IMPROVEMENT COMPANY, LTD.

MILES PLATTING, MANCHESTER 10

TELEPHONE : COLLYHURST 2961 (4 LINES)

TELEGRAMS : STOKER MANCHESTER

STOCK AND SHARE LIST.

Official Quotations on the London and Provincial Stock Exchanges.

Issue. £	Share.	When ex-Dividend.	Dividends. Prev. Hf-Yr. % p.a.	Dividends. Last Hf-Yr. % p.a.	NAME.	Quotations. July 21.	Rise or Fall on Week.	Transactions. Lowest and Highest Prices During the Week.
1,551,868	Stk.	Apl. 9	7	7	Alliance & Dublin Ord. ...	130–140	...	...
374,000	"	June 25	4	4	Do. 4 p.c. Deb. ...	90–100	...	...
557,655	"	Mar. 5	7	7	Barnet Ord. 7 p.c.	167–172	...	...
300,000	1	May 7	1/4½	1/9½	Bombay, Ltd.	27/6–29/6	...	28/1½–28/9
178,480	Stk.	Feb. 19	9½	9½	Bournemouth sliding scale	203–208	...	...
550,050	"	"	7	7	Do. 7 p.c. max. ...	167–172	...	170
439,160	"	"	6	6	Do. 6 p.c. Pref. ...	142–147	...	145
50,000	"	June 11	3	3	Do. 3 p.c. Deb. ...	78–83	...	...
262,025	"	"	4	4	Do. 4 p.c. Deb. ...	103–108	...	...
335,000	"	"	5	5	Do. 5 p.c. Deb. ...	122–127	...	...
357,900	"	Mar. 5	7½	7½	Brighton, &c., 6 p.c. Con. ...	162–167	+1	164½–167
540,000	"	"	6½	6½	Do. 5 p.c. Con. ...	151–156	...	...
196,500	"	"	6	6	Do. 6 p.c. B. Pref.	140–145	...	144½
1,487,500	"	July 9	5	5	Bristol 5 p.c. max.	116–118a*	...	...
120,420	"	June 11	4	4	Do. 1st 4 p.c. Deb. ...	102–105a	...	...
217,870	"	"	4	4	Do. 2nd 4 p.c. Deb. ...	102–105a	...	...
328,790	"	"	5	5	Do. 5 p.c. Deb.	121–123a	...	...
855,000	"	Apl. 9	7	8	British Ord.	155–160	...	158½–159¾
100,000	"	June 11	7	7	Do. 7 p.c. Pref.	154–159	...	...
350,000	"	"	5½	5½	Do. 5½ p.c. Pref.	104–109	...	...
120,000	"	"	4	4	Do. 4 p.c. Red. Deb. ...	95–100	...	...
450,000	"	"	5	5	Do. 5 p.c. Red. Deb. ...	107–112	...	...
160,000	"	June 11	5	5	Cambridge 5 p.c. Deb. ...	115–120	...	...
100,000	10	22 May '33	6	4	Cape Town, Ltd.	2–4	...	...
100,000	10	Nov. 6	4½	4½	Do. 4½ p.c. Pref. ...	5–7	...	...
150,000	Stk.	June 25	4½	4½	Do. 4½ p.c. Deb. ...	90–95	−3	90
626,860	"	Feb. 19	6	6	Cardiff Con. Ord.	128–133	...	...
237,860	"	June 11	5	5	Do. 5 p.c. Red. Deb.	103–108	...	...
157,150	"	Feb. 19	5	6½	Chester 5 p.c. Ord.	115–120b	...	...
98,986	1	May 7	2/-	2/-	Colombo, Ltd. Ord.	1⅞–1⅞	...	...
24,500	1	"	1/4½	1/4½	Do. 7 p.c. Pref. ...	18/6–20/6	...	...
609,204	1	Mar. 19	/11'48	/11'48	Colonial Gas Assn. Ltd. Ord.	19/6–21/6	...	20/7½
296,053	1	"	1/8'30	1/8'30	Do. 8 p.c. Pref.	23/6–25/6	...	24/1½
1,775,005	Stk.	Feb. 19	5	6½	Commercial Ord.	120–125	...	122½–122½
475,000	"	June 11	3	3	Do. 3 p.c. Deb. ...	82–87	...	...
286,344	"	Mar. 5	5	5	Do. 5 p.c. Deb. ...	120–125	...	122
807,560	"	Feb. 19	7	7	Croydon sliding scale ...	154–159	...	156½–157
569,590	"	"	5	5	Do. max. div.	105–110	...	...
620,385	"	June 25	5	5	Do. 5 p.c. Deb.... ...	119–124	...	...
542,270	"	Mar. 5	7	10	Derby Con.	175–180e	...	...
55,000	"	June 25	4	4	Do. 4 p.c. Deb.	97–100e	...	...
209,000	"	Feb. 19	5	5	East Hull Ord. 5 p.c. ...	106–111	...	...
181,625	"	Mar. 5	6	6	East Surrey Ord. 5 p.c. ...	126–131	...	129
175,609	"	June 11	5	5	Do. 5 p.c. Deb. ...	116–121	...	...
1,002,180	"	Apl. 9	†5	†7	European, Ltd.	123–128	...	126–128
19,342,763	"	Feb. 19	5⅞	5⅞	Gas Light & Coke 4 p.c. Ord.	27/–27/6f	+·/1½	27/–27/4½
2,600,000	"	"	3½	3½	Do. 3½ p.c. max. ...	87–90	...	87–88½
4,477,106	"	"	4	4	Do. 4 p.c. Con. Pref. ...	105–108	+1	106–108
6,102,497	"	May 28	3	3	Do. 3 p.c. Con. Deb. ...	85–88	+1	85½–88
3,642,770	"	"	5	5	Do. 5 p.c. Red. Deb. ...	115–118	...	117½–117½
2,500,000	"	"	4½	4½	Do. 4½ p.c. Red. Deb. ...	113–116	...	115–116
270,466	"	Mar. 5	6	6	Harrogate New Cons. ...	125–130	...	...
82,500	"	Mar. 5	7	7	Hastings & St. L. 5 p.c. Conv.	165–165	...	...
258,740	"	"	5½	5½	Do. 3½ p.c. Conv.	120–130	...	...
140,000	1	Apl. 23	1/7½	1/7½	Hongkong & China, Ltd. ...	1⅝–1⅞	...	29/4½–29/7½
213,200	Stk.	Mar. 5	6	6	Hornsey Con. 3½ p.c. ...	128–133	...	...
5,600,000	"	May 28	†0	†4	Imperial Continental Cap.	211–216	+2	212–215½
223,180	"	Feb. 5	3½	3½	Do. 3½ p.c. Red. Deb.	89–94	...	...
235,242	"	Mar. 5	8½	8½	Lea Bridge 5 p.c. Ord. ...	169–174	...	...
2,167,410	"	Mar. 5	6	6	Liverpool 5 p.c. Ord. ...	183–184b	...	...
245,500	"	June 11	5	5	Do 5 p.c. Red. Pref. ...	101–111b	...	...
306,083	"	Jan. 15	4	4	Do. 4 p.c. Deb. ...	102–104b	...	...
165,736	"	Feb. 19	8	†0	Maidstone 5 p.c. Cap. ...	180–190	...	...
56,176	"	June 25	3	3	Do. 3 p.c. Deb. ...	71–76	...	...
75,000	£5	May 28	†10	†10	Malta & Mediterranean ... Metropolitan (of Melbourne)	...	...	...
392,000	—	Apl. 3	5½	5½	5½ p.c. Red. Deb.	98–103	...	...
231,978	Stk.	Feb. 19	5	5	M. S. Utility "C." Cons. ...	113–118	...	...
818,657	"	"	4	4	Do. 4 p.c. Cons. Pref.	96–101	...	100½–101
360,075	"	June 11	4	4	Do. 4 p.c. Deb. ...	100–105	...	...
148,955	"	"	5	†5	Do. 5 p.c. Deb ...	119–124	...	...
125,000	"	July 2	...	11/8	Do 3½ p.c. Rd. Rg. Bds.	97–100	...	...
675,000	"	May 28	†6	††3	Montevideo, Ltd.	60–65	...	...
2,061,315	"	Mar. 5	5	5½	Newcastle & Gateshead Con.	25/6–26/3d†	+·/3	...
682,856	"	"	4	4	Do. 4 p.c. Pref. ...	100–101d	...	...
776,706	"	June 11	3½	3½	Do. 3½ p.c. Deb. ...	90½–91½d	...	...
277,285	"	May 7	5	5	Do. 5 p.c. Deb. '48 ...	105–107d	...	...
274,000	"	Feb. 19	5	5	Newport (Mon.) 5 p.c. max.	107–109a	...	...
204,940	"	Mar. 19	7½	7½	North Middlesex 6 p.c. Con.	155–160	...	...
393,160	"	Feb. 5	5	5	Northampton 5 p.c. max. ...	104–109	...	...
300,000	"	May 7	†2	†7	Oriental, Ltd.	155–160	...	...
416,617	"	June 11	8	8	Plym'th & Stonehouse 5 p.c.	167–172	...	170–172
504,416	"	Feb. 19	8	8	Portsm'th Con. Stk. 4 p.c. Std.	168–173	...	...
241,446	"	"	5	5	Do. 5 p.c. max. ...	105–110	...	...
114,000	"	Feb. 19	5	5	Preston 5 p.c. Pref.	103–108	...	...
686,312	"	Jan. 22	4	4	Primitiva 4 p.c. Rd. Db. 1911	87–92	...	...
389,813	"	June 25	4	4	Do. 4 p.c. Cons. Deb.	89–94	+2	93
150,000	10	Mar. 19	6	6	San Paulo 6 p.c. Pref. ...	7–8	...	...
1,736,968	Stk.	Mar. 19	6	6	Sheffield Cons.	139–141e	...	...
95,000	"	July 9	4	4	Do. 4 p.c. Deb.	100–104e*	...	...
133,201	"	Feb. 19	8½	5	Shrewsbury 5 p.c. Ord. ...	137–142	+2	139–139½
90,000	10	May 28	‡4	‡3	South African	2–4	...	...
6,709,895	Stk.	Feb. 19	5	7	South Met. Ord.	135–138	+½	185¾–187½
1,135,812	"	"	6	6	Do. 6 p.c. Irred. Pf.	142–147	...	...
850,000	"	"	4	4	Do. 4 p.c. Irred. Pf.	103–107	...	...
1,895,445	"	June 25	3	3	Do. 3 p.c. Deb ...	84–87	+1	85½–86½
1,000,000	"	July 9	5	5	Do. 5 p.c. Red. Deb.	112–115*	...	113½–115
209,820	"	Mar. 5	8½	8½	South Shields Con.	166–168f	...	...
1,543,795	"	July 9	6	6	South Suburban Ord. 5 p.c.	130–133*	...	...
512,825	"	"	5	5	Do. 5 p.c. Pref.	120–125*	+4	...
300,000	"	"	4	4	Do. 4 p.c. Pref.	101–106*	...	...
868,837	"	June 11	5	5	Do. 5 p.c. Deb.	121–126	+1	...
100,000	"	"	4	4	Do. 4 p.c. Deb.	102–107	...	...
647,740	"	Mar. 5	5	5	Southampt'n Ord. 5 p.c. max.	110–115	...	...
121,275	"	June 11	4	4	Do. 4 p.c. Deb.	99–104	...	...
350,000	"	Mar. 5	5½	5½	Swansea 5½ p.c. Red. Pref.	107–112	...	...
200,000	"	June 11	6½	6½	Do. 6½ p.c. Red. Deb.	100–105	...	...
1,076,490	"	Mar. 5	6½	6½	Tottenham and District Ord.	153–158	...	156–156½
409,835	"	"	5½	5½	Do. 5½ p.c. Pref. ...	126–131	...	...
62,285	"	"	5	5	Do. 5 p.c. Pref. ...	115–120	...	...
199,005	"	June 11	4	4	Do. 4 p.c. Deb. ...	98–103	...	...
349,110	"	Mar. 5	7	7	Uxbridge, &c., 5 p.c. ...	150–155	...	...
88,330	"	"	5	5	Do. 5 p.c. Pref. ...	112–117	...	...
1,322,220	"	Mar. 5	7	7	Wandsworth Consolidated	157–162	...	157½
1,096,373	"	"	5	5	Do. 5 p.c. Pref.	121–126	+2	...
1,317,964	"	June 11	5	5	Do. 5 p.c. Deb.	121–126	+1	...
158,400	"	Mar. 5	5	6g	Winchester W. & G. 5 p.c. Con.	115–120	...	...

Quotations at:—*a.*—Bristol. *b.*—Liverpool. *c.*—Nottingham. *d.*—Newcastle. *e.*—Sheffield. *f.*—The quotation is per £1 of stock. *g.*—Paid £3, including 10s. on account of back dividends. * Ex. div. † Paid free of income-tax. ‡ For year.

THE

EAST SURREY GAS COMPANY

Sale of 4½ per cent. Redeemable Preference Stock

NOTICE IS HEREBY GIVEN that it is the intention of the said Company to Sell by Tender, £25,000 4½ per cent. Preference Stock of the Company (redeemable at par on the 1st July, 1978), at the minimum price of £112 per £100 Stock, ranking for Dividend as from the 1st of July instant.

	£	s.	d.
The balance of Net Revenue of the Company for the year ended 31st December, 1933, including Undivided Profit brought forward from the previous year, was	33,525	7	3
The Interest on the Loan Capital requires ...	9,569	5	0
	23 956	2	3
The Dividend on the Preference Stock, including that being issued, will amount to	13,736	14	0
Leaving available for Dividends on the Ordinary Stock	£10,219	8	3

The Dividend paid on the Ordinary Stock last year was at the rate of 6 per cent. After payment of this Dividend a balance of Undivided Profit amounting to £5,342 6s. 2d. remained to be carried forward.

The Reserve, Special Purposes and Renewal Funds together amount to £13,566 17s. 4d.

The Capital to be raised by the present issue is required for extensions of the works and plant rendered necessary by the increasing demand for Gas.

The Total Stock Capital authorised is	**£494,220**	**0**	**0**
Of which there has been issued—			
Preference Stock—6 per cent. Cumulative ...	£ 53,220	s. 0	d. 0
Redeemable Preference Stock (1978)—4½ per cent.	30,000	0	0
Preference "A" Stock—5½ per cent. irredeemable	146,700	0	0
Ordinary "B" Stock ...	181,625	0	0
	£411,545	0	0
The authorised Loan Capital is	**£247,110**	**0**	**0**
Of which there has been raised—			
Debenture Stock (4 per cent.)	£ 19,720	s. 0	d. 0
Debenture Stock (5 per cent.)	175,609	0	0
	£195,329	0	0

The last day for the reception of Tenders will be Monday, the 30th of July, 1934, at 11 o'clock a.m.

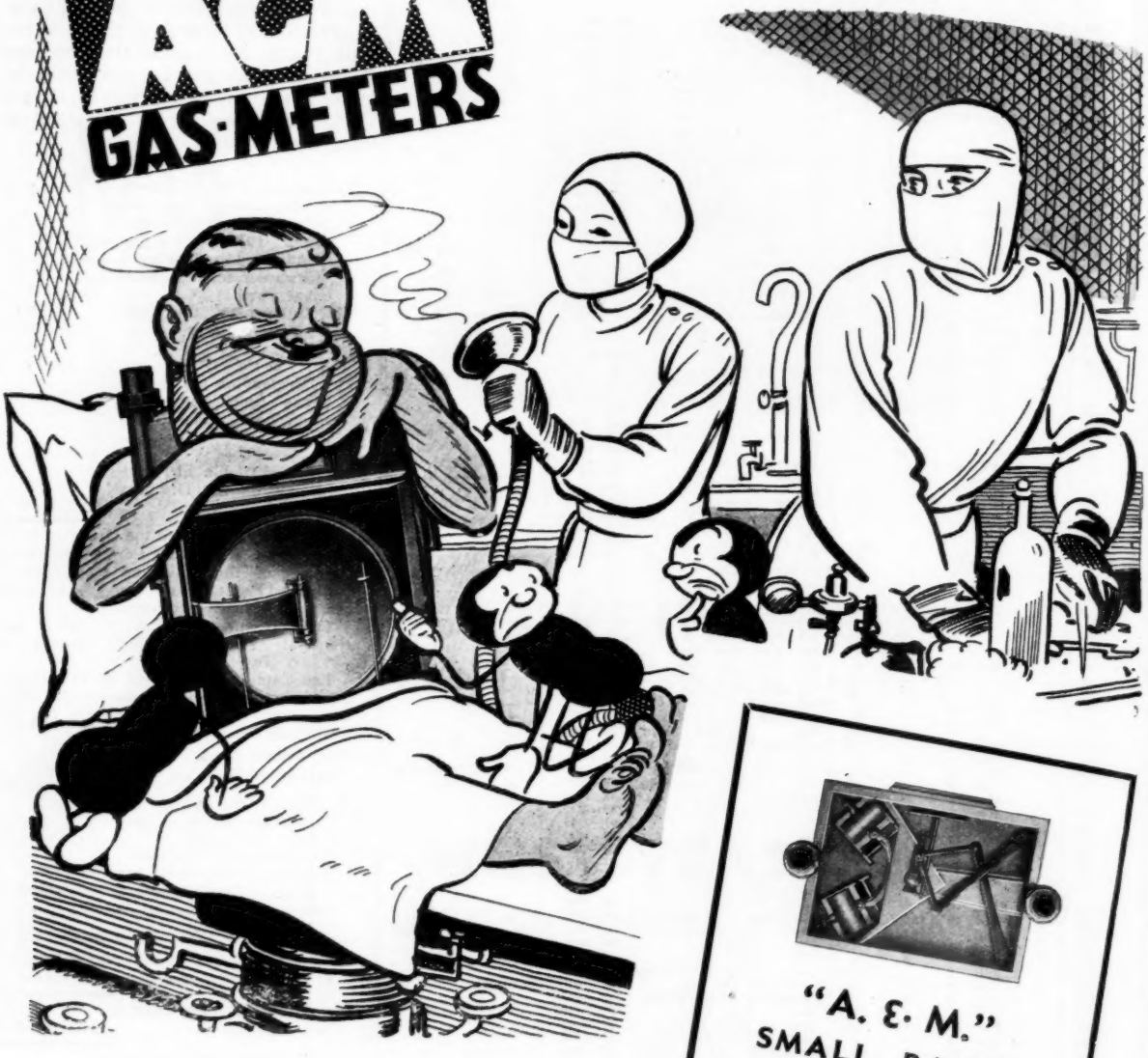
FORMS OF TENDER, with Particulars of Sale and Conditions of Tender attached, can be had upon application at the Chief Offices of the Company, or at the Branch Offices: 66, High Street, Reigate; 91, High Street, Dorking; High Street, Walton-on-the-Hill; Lagham Road, South Godstone; The Street, Capel; and Station Road, Lingfield; also from Messrs. Seymour, Pierce & Co., 5, Lothbury, E.C.2.

By Order of the Board,
HORACE LONG,
Secretary.

Chief Offices:
Brighton Road, REDHILL, Surrey.
12th July, 1934.

A&M GAS·METERS

TRAIN·THE·THERMS



UNDER GAS!

Here's "a case"—a splendid case! (*Baldwins Staffordshire Plate*). Magnificent lungs (*Selected Persian Skins*). The valves of the heart, large and orthodox! Arteries clear and of generous dimensions! There's "stuffing" in **these** glands! No malingerer this!! Trust Sergt. A. E. M. Meters to tally YOUR Therms!

"A. E. M." SMALL RANGE HIGH CAPACITY METERS

The Small High Capacity Meter is behaving well "under gas." Specially designed to perform at the higher speed, it is confidently offered to our customers as a meter that will uphold the "A. E. M." tradition.

ALDER & MACKAY LIMITED

MAKE METERS OF METICULOUS MEASUREMENT

ALDER & MACKAY LTD., EDINBURGH, LONDON & BRADFORD